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THE CARE OF THE CRIPPLE *

F. J. GAENSLEN, M.D.
MILWAUKEE

The care of the cripple, it is generally conceded, is a problem of no small proportions. Much has been accomplished and much still remains to be done. The purpose of the address which it is my privilege to present is to offer a brief survey of the situation as it stands today, as an aid in the determination, if possible, of the directions along which further efforts may be most fruitful. While my remarks bear on the problem of the cripple in general, I have in mind especially the child cripple. The ultimate goal of all our efforts should be the prevention of dependence on family or state and all that that implies, the motives being both humanitarian and economic.

It would seem logical, in the first place, to ascertain the total number of cripples and the annual addition to the cripple population; also whether or not all reasonable effort is being made to reduce this number to the lowest limit, and, secondly, to determine the facilities at our disposal in the reclamation process. If our facilities are inadequate, wherein does this inadequacy lie and how can it be overcome?

Of further vital importance in the consideration of the combative resources is the training of orthopedic men in order that they may be properly fitted to meet their responsibilities and that the costly machinery of reconstruction will yield the greatest return.

The facilities required in the reclamation of the cripple are: first, the hospital in which the acute cases are treated or necessary surgery is carried out. These are represented by the strictly orthopedic hospitals and general hospitals with orthopedic services. These are hospitals run at great expense with highly trained personnel and with full equipment, including operating and roentgen-ray units, brace shops and occupational therapy. The stay of the patient in these hospitals should be relatively short, so that the beds may be available for others. In a recent report on the work of the Shriners, it is stated that the average hospital stay is ninety days. This figure, which to me seems entirely reasonable, will be used as a basis for estimation of required facilities in future work.

On the completion of the treatment, so far as it is practical to carry it out in these hospitals, the patient passes on to the convalescent home. This provides for ordinary care and continued occupational therapy, but includes facilities for systematic elementary and prevocational education. The convalescent home as distinguished from the hospital requires a much smaller personnel and one much less highly trained. The per capita cost should be very much less than in the hospital, but the convalescent homes must have a far greater total capacity, because the average stay is longer.

The third and fourth phases in the reconstruction program are covered by the vocational training schools and the social service bureaus for placing in industry and follow-up. These two phases are of tremendous economic importance. Especially organized state boards of vocational training and bureaus of social service are responsible for their proper functioning, though frequent consultation with orthopedic consultants will be helpful, so that in the selection of occupations the physically handicapped may be given work suited to their physical disability.

A most valuable service is being rendered in this field by the International Society for Crippled Children at Elyria, Ohio, and the comprehensive report in 1924 by Henry Edward Abt, director of the bureau of information of this society, will be found most useful in any study of the problems involved. From accumulated statistics in England, Canada and the United States, Abt concludes that there are in the United States 500,000 cripples, of which number probably 265,000 are children under 16 years of age. This corresponds to a ratio of five cripples for 1,000 of population, a figure which is generally accepted and which is regarded as fairly constant. It may therefore be properly used in estimating the cripple population of any given locality. While no estimates of the annual addition to the child cripple population are available, it seems fair to estimate this at one sixteenth of the total number of cripples under 16 years of age. If this is correct, the annual addition to the child cripple population is between 16,000 and 17,000. This would not seem to be an unmanageable number for the hospitals proper to handle, if these can be relieved of the care of all but the acute and operative cases.

No doubt a good beginning in dealing with the cripple problem is to reduce its size, that is, the number of cripples in the first place, to the irreducible minimum. With infantile paralysis contributing roughly one third of all juvenile cripples, some 88,000, it may be well to make some more concerted effort in the line of laboratory investigation. While there is no dispute as to the causal relation of the filterable virus to the disease, the rôle of Rosenau's streptococcus to this virus and the possibility of virus and streptococcus being different forms of the same infective agent should stimulate to intensive study. If the laboratory could give us an efficient and practical method of immunization against this disease, it would with one stroke do more to relieve the cripple situation than all the

* Chairman's address, read before the Section on Orthopedic Surgery at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

ingenious operative procedures developed by the orthopedic surgeons for the repair of damaged limbs. We have bureaus and special laboratories for cancer research; why not one for the study and prevention of infantile paralysis? It would be as promising, probably, as that for cancer, and, economically, perhaps quite as important, as the disease attacks early in life with enormous economic loss. This may seem a poorly founded hope, but who will say that its realization is impossible? When it is recalled that even at this late date there are many unsolved problems touching etiology, early diagnosis, mode of transmission and proper quarantine measures, is it ill advised to urge the establishment of special research laboratories with mobile units for the study of epidemics wherever they may occur?

To come now to the more concrete, it is probably fair to say that the disabilities resulting from neglected congenital deformities, notably clubfoot and congenital dislocation of the hip, is a reproach to the state in large measure. With laws requiring prompt reporting of deformities recognized at birth, and, in the case of defects not recognized at birth, the reporting of these as soon as discovered, and efficient follow-up through state health boards and social agencies, should have a telling effect on cripple surveys. Wisconsin is the only state in the Union which today requires the reporting of recognized congenital deformities and defects at birth. I say "recognized," because not all deformities, and among these is congenital dislocation of the hip, are recognizable at birth.

The remarkable work of Steenbock has much of interest for the orthopedic surgeon from the standpoint of prevention of deformity. He found that a variety of foods, including the ordinary breakfast cereals, meat, milk and egg yolk, could be endowed with rickets-preventing properties by exposure to ultraviolet rays. Rickets has been credited with responsibility of from 6 to as high as 40 per cent. of deformities in various clinics. The last figure was obtained from the New York survey in 1920. It is not vain to hope that, with the assistance of feeding clinics and their educational influence, rickets may be almost eliminated or, at any rate, it may be cut down very materially.

The continued fight against tuberculosis appears to be accomplishing results. Most of the men long established in our specialty, I am sure, will agree that tuberculosis of the joints is seen less frequently now than it was even a decade ago. Some of these points were emphasized by Dr. H. B. Thomas in his address last year, but in any discussion of the present problem in its broadest sense, the phase of preventive medicine may well be stressed repeatedly.

Turning now to the question of facilities at our disposal for the care of these children, we find that a comparison of the number of institutions listed in Reeves' report in 1914 and in the Abt report in 1924 is most interesting and gratifying. In the former report, thirty-seven institutions were listed, caring for approximately 2,000 children, while in Abt's report ten years later, 147 institutions were listed with a reported bed capacity of 8,486. In addition, there were fifty-one institutions, six purely orthopedic not included, because no bed capacity had been reported. There were ninety-two hospitals, as distinguished from convalescent homes, with a bed capacity of 5,381, which could care for four times that number on the ninety day basis, or nearly 22,000. This number exceeds the estimated annual addition to the juvenile cripple population by nearly 32 per cent.

This is not to be interpreted as indicating that no additional hospitals are necessary. The unequal distribution of existing hospitals leaves us far from this goal. The needs of every district must be ascertained by studying local conditions. It does mean that with an adequate number of convalescent homes providing suitable educational facilities, which are impossible in the hospitals proper, the problem would become distinctly more manageable. This deficiency in our present scheme has, of course, long been recognized.

Abt states that there are about twice as many beds available in hospitals as in convalescent homes, and that existing educational facilities are caring for less than 2 per cent. of the crippled children in the United States. Just what the ratio of beds in these two types of institutions should be has not been determined.

Referring to the adult cripple, Campbell found that five convalescent beds were needed for the output of one hospital bed. It is quite likely that in the case of crippled children the ratio should be even higher, as radical surgery in the young, notably in tuberculosis, is less frequently chosen if there is an alternative. Sir Robert Jones has repeatedly urged the importance of the properly supervised convalescent home in the scheme of reconstruction of the cripple in England, and the latest figures available in the United States would indicate that the chief weakness in our own scheme is to be looked for in the same direction. These convalescent homes, if scattered throughout the state, will be more readily accessible to the rural cripple, and many will avail themselves of the special opportunities mapped out for them if they can put in the greatest part of the time of the reconstruction period somewhere near relatives and friends. This is a strong argument for the convalescent homes, as it has always been difficult to reach the rural cripple.

From preceding figures it is evident that, with a proper distribution as to population, existing hospitals, if used for acute and surgical cases only and operated at somewhere near normal capacity, could take care of a number equivalent to the annual addition to the cripple population and gradually reduce the army of accumulated cases.

Contrast this statement with the picture of the hordes of cripples who can be gathered on any countryside on the occasion of an orthopedic clinic. What does it mean? It means that many of these patients have not been convinced that their conditions are remediable. They come, either of their own will or yielding to the persuasion of the social worker, satisfied to add another diagnosis and opinion to their collection, in which, perhaps, the chiropractor's promises are still remembered. If a patient with a disability amenable to treatment wants treatment and applies for it at the proper source, he gets it. To be sure, he may be placed on the waiting list, but he gets the desired service. Let me ask how many such handicapped, with disabilities amenable to surgery, indigent or otherwise, have the men here assembled turned away because of lack of hospital facilities. Probably a very negligible number. The weak link in the chain, but one which is slowly but surely being eliminated, is the lack of enlightenment regarding prognosis of the various disabilities. "We have been to several doctors, who said that nothing could be done," or "we have tried everything but got no help." Such statements tell the story. How can enlightenment be brought about? First, through

the reconstructed cripple himself. His story goes straight and direct to the afflicted themselves, and, secondly, through enlightenment of the public and of the profession through formal surveys and orthopedic clinics.

While further surveys in special localities may be of interest, their principal value would lie not in the accumulation of further hosts of figures, but in the resulting awakening of all concerned to the fact that in the great majority of cases reconstruction is possible to very considerable extent. To me it seems that the costly and time-consuming formal survey is surpassed in educational value by orthopedic clinics held at various communities under the auspices of local medical societies. It is generally a matter of great surprise both to physicians and to laymen interested in these clinics that so many cripples are to be found in their respective communities. Facts and figures accumulated through such clinics will also have great weight with legislators when presented at the proper time. But, in addition, these clinics have an advantage in offering an excellent opportunity for securing the cooperation of the general practitioner, whose counsel is often sought by parents before submitting their children to a long and often tedious course of treatment. Through a proper understanding of the crippling conditions and of the surgical and other means of correction, the family physician is put into possession of the facts necessary to give proper counsel. This is an extremely important point. The gap between the patient and the reconstruction machinery can be bridged by none so well as by the family physician. His help and cooperation are essential.

That the problem is essentially a state problem so far as the indigent is concerned, and that the surgical care should be given in the large centers in institutions with proper equipment and properly trained personnel to insure the best results, may be regarded as obvious.

Orthopedic surgery is a well established specialty. It is not learned in the medical school, or during the service of the intern in the general or even in the strictly orthopedic hospital. It is learned at the elbow of the trained orthopedic surgeon, by long and close association in office as well as in hospital and dispensary practice. It may, on the other hand, be learned in the school of experience supplemented by continued study, observation and devotion to a single purpose. Needless to say, a quick conscience and a good fundamental training are prerequisites, if the patient's interests are not to be jeopardized. The field is big enough for the best minds. The general surgeon with a keen conscience, realizing his limitations in any special field, needs no word of caution. The tender sensibilities of those not so blessed may be disregarded. Skilled supervision in the convalescent homes, and a consistent educational and vocational training policy with efficient follow-up will see the cripple through. Only by such a comprehensive plan and whole-hearted cooperation of the state and its various agencies, as well as the medical profession at large, will the ultimate goal of helping the cripple to independence be reached.

141 Wisconsin Street.

Viability of Typhoid Bacillus in Stored Shell Oysters.—Oysters were aroused from hibernation, fed with *B. typhosus*, and then stored. *B. typhosus* was being recovered fifteen days after the oysters had been fed with the organism, when the tests were discontinued.—*Pub. Health Rep.* **40**:819 (April 24) 1925.

CLINICAL AND HEMATOLOGIC STUDIES ON BANTI'S DISEASE

1. THE BLOOD PLATELET FACTOR WITH REFERENCE TO SPLENECTOMY *

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NEW YORK

Banti's disease, or chronic splenic anemia, has been studied from various points of view, but its pathogenesis and etiology are still obscure. Banti,[1] in 1894, clearly described the pathologic lesions of the enlarged spleen of this disease, and again,[2] in 1910, its symptoms and its course. He also suggested splenectomy as a curative measure. Osler,[3] in 1900, was the first to point out the frequent occurrence of gastric hemorrhages, and his studies have placed the disease on a firm clinical basis.

TABLE 1.—*Summary of Sixteen Cases of Banti's Disease*

Case	Age on Admission, Years	Duration of Splenomegaly	Main Symptom	Date of Splenectomy	Result
1. A.M.	26	8 years	Hematemeses	2/18/09	Ceased
2. I.Z.	41	1 month	Pain	1/ 4/15	Well
3. N.S.	25	4 months	Ascites; hemorrhages from gums and kidneys	3/18/15	Well
4. H.W.	14	1 year	Pain in left upper quadrant	5/20/15	Well
5. L.C.	19	5 years	Hematemeses	2/25/16	Unimproved
6. S.S.	25	5 months	Hematemesis, ascites	10/23/16	Well
7. F.K.	24	10 years	Pain, fulness in left upper quadrant	5/22/18	Ceased
8. M.W.	29	2½ years	Hematemeses	4/21/19	Ceased
9. S.A.	12	8 years	Hematemeses	4/29/20	Well
10. I.G.	35	2 years	Pain	11/22/20	Unimproved
11. E.G.	30	21 years	Weakness	4/18/21	Well
12. Y.R.	12	2 years	Hematemeses	6/ 3/22	Well
13. H.S.	3	8 months	Hematemeses, bleeding gums	3/ 5/24	Well
14. T.E.	12	5 years	Hematemeses	4/23/24	Unimproved
15. S.G.	13	4 months	Hematemesis, epistaxis	12/ 3/24	Well
16. E.B	17	Found on admission	Epistaxis, bleeding gums	12/11/24	Well

His definition of splenic anemia is a concise description of the important symptoms as follows:

> A chronic affection, probably an intoxication of unknown origin, characterized by progressive enlargement of the spleen which cannot be correlated with any known cause as malaria, leukemia, syphilis, cirrhosis of the liver, etc. (primary splenomegaly); a marked tendency to hemorrhage; and in many cases a terminal stage with cirrhosis of the liver, jaundice and ascites (Banti's disease).

Those who have followed such cases and studied the spleens obtained at operation do not hesitate to state that such a clinical entity exists. Typical lesions of Banti's splenomegaly, however, have been found in other conditions, such as syphilis (Chiari,[4] Marchand,[5] Giffin[6] and Norris, Symmers and Shapiro[7]); cirrhosis of the liver (Mennet,[8] Duerr[9]); malaria (Kartulis[10]),

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* Read before the Section on Practice of Medicine at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

1. Banti, G.: Dell-Anemia Splenica, Sperimentale, Sez. Biol., 1894, p. 407.
2. Banti, G.: Ueber Morbus Banti, Folia haemat. **10**: 33, 1910.
3. Osler, William: On Splenic Anemia, Am. J. M. Sc. **119**: 54, 1900; **121**: 751, 1902.
4. Chiari, H.: Ueber Morbus Banti, Prag. med. Wchnschr. **27**: 285, 1902.
5. Marchand, F.: Ueber sogenannte idiopathische Splenomegalie, München med. Wchnschr. **54**: 1102, 1917.
6. Giffin, H. Z.: The Treatment by Splenectomy of Splenomegaly Associated with Syphilis, Am. J. M. Sc. **152**: 5 (July) 1916.
7. Norris, C.; Symmers, D., and Shapiro, L.: Banti's Disease, Am. J. M. Sc. **154**: 893 (Dec.) 1917.
8. Mennet, J.: Die bantische Krankheit und ihre Beziehungen zur Leberzirrhose, Virchows Arch. f. path. Anat. **227**: 266, 1920.
9. Duerr, R.: Bantimilz und hepato-lienale Fibrose, Beitr. z. path. Anat. u. z. allg. Path. **72**: 418, 1924.
10. Kartulis, S.: Ueber die sogenannte bantische Krankheit in Aegypten, Zentralbl. f. Bakteriol. u. Parasitenk. Orig. **64**: 1, 1912.

and persistence of the umbilical vein (Baumgarten,[11] Eppinger[12]). This has given rise to differences of opinion as to the clinical entity of Banti's disease. Moschcowitz[13] sums up the arguments for and against the existence of Banti's disease as a clinical entity, and comes to the conclusion that all these splenic changes are due to a similar irritative process, and that "a fibrogenic toxin, probably of intestinal origin, attacks the organs of the portal area and causes primarily a fibrosis of the spleen." The reports from the Mayo Clinic by Giffin,[14] Chaney[15] and W. J. Mayo[16] (latest report on ninety-eight cases), and also the report from the Johns Hopkins Hospital by Hanrahan,[17] warrant the assumption that a large number of the cases in which the patients recover from splenectomy justify the conclusion that they are due to a primary splenomegaly. The cases unrelieved by splenectomy have not been studied sufficiently to help the internist in the selection of cases suitable for operation. We must assume on this basis that, in such cases, the spleen subserves a secondary function or is possessed of a protective mechanism. This communication attempts to define these two large groups and to indicate at least some of the underlying factors involved in their pathogenesis.

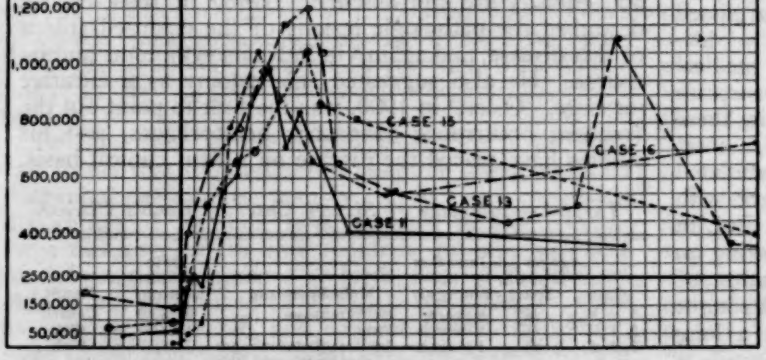

Chart 1.—Blood platelet variations following splenectomy in the thrombocytopenic group of Banti's disease.

From February, 1909, to December, 1924, sixteen cases of Banti's disease were treated by means of splenectomy (Table 1). All these patients had splenomegaly, secondary anemia and leukopenia, and complained mainly of weakness, repeated gastric hemorrhages, less often of nasal hemorrhages, generalized bleeding (purpura) and pain in the left upper quadrant of the abdomen. Cases of syphilis, malaria, tuberculosis, leukopenic leukemia and cirrhosis of the liver were excluded from this group. Twelve patients suffered from severe hematemesis; four patients had no hemorrhages but complained of severe pain in the splenic area (Case 10), marked weakness (Case 11), and purpura and bleeding gums (Case 16, resembling acute purpura hemorrhagica but showing the presence of a large spleen). Three of the patients operated on died within one year; ten have remained well from four months to ten years, and three are unimproved (one is now recovering from severe hemorrhages, followed by thromboses). Three patients had hematemeses one to two years following splenectomy. The last nine patients operated on by Dr. Berg have been followed closely since the splenectomy. Our studies, especially of the blood picture, indicate that we are dealing with at least two forms of Banti's disease which have the same pathologic lesions, but which are due to two diametrically opposed conditions. I shall not go into detail concerning the character of the anemia, the leukocytes or the pathologic lesions in the spleen, in this communication, but restrict the discussion mainly to the most important feature; namely, the study of blood platelets (Table 2).

The postoperative course of a successful splenectomy is uneventful. The hemorrhages cease as the anemia disappears, and the patient is gradually restored to health. The question arises whether this improvement is accounted for by certain blood changes following splenectomy, or by the relief of pressure on the vasa brevia due to the removal of the enlarged spleen in cases of gastric hemorrhages. It seems to me that the presence of an accessory bleeding tendency has not been investigated sufficiently, although Ziegler[18] suggests an associated hemorrhagic diathesis. In most of the cases of Banti's disease in which operation was not performed, and often in related splenomegalic conditions due to definite causes, such as malaria, tuberculosis, cirrhosis of the liver and syphilis, I could find no changes in the coagulation time of the blood, but there was frequently a constant diminution of the blood platelets or a thrombocytopenia. This was often associated with a positive capillary resistance test and occasionally with slightly prolonged bleeding time. In a few cases, clot retraction was somewhat impaired, and in one case was absent. It is interesting to note that in most of our operative cases in which there were gastric hemorrhages, the blood platelets were diminished, in seven cases out of nine, from 20,000 to 140,000; in two cases the blood platelets were normal (from 185,000 to 247,000, Table 2). The average normal number of platelets found with the method that Dr. Ottenberg and I[19] described is 250,000.

TABLE 2.—*Blood Picture of Last Nine Cases of Banti's Disease Before Splenectomy*

Case	Hemoglobin, Per Cent.	Red Cells	White Cells	Platelets	Polymorphonuclear Neutrophils, Per Cent.	Lymphocytes, Per Cent.	Monocytes, Per Cent.
8. M.W.	60	4,420,000	4,400	120,000	66	32	2
9. S.A.	63	3,200,000	1,200	30,000	73	12	6
10. I.G.	66	3,800,000	5,000	247,000	88	17	4
11. E.G.	80	4,400,000	2,000	48,000	54	39	3
12. Y.R.	51	4,520,000	4,800	128,000	71	24	4
13. H.S.	37	2,720,000	10,600	185,000	78.5	14	5
14. T.E.	25	1,888,000	5,000	140,000	49	40.5	9
15. S.G.	45	3,800,000	3,000	72,000	56	34	5
16. E.B.	32	2,432,000	2,700	20,000	73	18	8

11. Baumgarten, P.: Beiträge zur Frage des Morbus Banti, Baumgartens Arbeiten **6**: 93, 1908.
12. Eppinger, H.: Die hepato-lienalen Erkrankungen, Berlin, 1920.
13. Moschcowitz, Eli: A Critique of Banti's Disease, J. A. M. A. **69**: 1045 (Sept. 29) 1917.
14. Giffin, H. Z.: Clinical Observations Concerning Twenty-Seven Cases of Splenectomy, Am. J. M. Sc. **145**: 781, 1913.
15. Chaney, W. C.: Splenic Anemia: A Clinical and Pathological Study of Sixty-Nine Cases, Am. J. M. Sc. **165**: 856 (June) 1923.
16. Mayo, W. J.: Certain Blood Dyscrasias Dependent on Pathologic Conditions of the Spleen, J. A. M. A. **83**: 815 (Sept. 13) 1924.
17. Hanrahan, E. M., Jr.: Splenic Anemia: A Study of End Results With and Without Splenectomy Based on Thirty-Five Cases, Arch. Surg. **10**: 639 (March) 1925.
18. Ziegler, K.: Die bantische Krankheit, Ergebn. d. Chir. u. Orth. **8**: 625, 1914.
19. Ottenberg, Reuben; and Rosenthal, Nathan: A New and Simple Method for Counting Blood Platelets, J. A. M. A. **69**: 999 (Sept. 22) 1917.

The blood platelet as a factor in Banti's disease has not received the attention that it deserves. There are very few cases reported in the literature with blood platelet counts. In the only case of fibro-adenia of the spleen observed by Eppinger,[12] there was a marked diminution of the platelets and an associated purpura. In this case, however, tuberculosis was present from which the patient died seven months after splenectomy. Frank [20] found a marked thrombocytopenia in five cases of Banti's disease and considers the condition as a syndrome of "Splenopathie mit Hypoleukie und Thrombopenie."

The association of a diminished platelet count and hemorrhagic tendency in this disease is quite common. The exceptions to this are very few. In one case of repeated gastric hemorrhages in a child, aged 3 years (Case 13), the blood platelets were not diminished. This was possibly due to blood concentration, as the child was practically in the state of exsanguination and was receiving numerous transfusions. Patient 16 had the lowest number of blood platelets, and it is interesting to note that this patient had symptoms of purpura hemorrhagica. Patient 10 had a normal platelet count and no hemorrhages, but, as we shall see later, the postoperative course was followed by the occurrence of numerous thromboses. Patient 8, with a relatively high platelet count, died within one year after splenectomy from thromboses of the portal and other veins. Patients 10 and 12, with normal or relatively high platelet counts, have had evidence of thromboses at various periods after splenectomy. According to these platelet examinations, we may group the cases as follows:

1. Thrombocytopenic group (Cases 9, 11, 13, 15, 16): All these patients are now well. Patient 9 had one gastric hemorrhage two years after splenectomy, but is now well.

2. Thrombocythemic group (Cases 8, 10, 12, 14): All these patients have had complications such as thromboses of peripheral veins and abdominal veins. Two of these patients are still anemic and have shown only short periods of improvement. One patient, however, is apparently well, although the blood changes, as we shall see later, are of this group. The cause of death in Case 8 was widespread thrombosis of the portal system. All these patients had an enormously increased number of blood platelets following splenectomy.

It is very interesting to follow the blood platelet variations after splenectomy in these two groups. In the first group, which is followed by the best results from splenectomy, the blood platelets gradually increase immediately after the splenectomy. The maximum number of platelets appear in the blood about the end of the second week—usually over one million. In the case reports by Hanrahan, a few platelet counts are reported, and they correspond to the increase which we have found. In one case, Frank [20] reported an increase of the blood platelets to 450,000, seven days after splenectomy. One month later, he found a very low platelet count corresponding to the figure present before operation. In our group of cases, the blood platelets began to drop in the third week and have so far remained about normal or slightly increased. In Case 3, a blood platelet examination done ten years after the operation showed 350,000 blood platelets per cubic millimeter. The blood platelet curves of the patients studied before and after operation are graphically represented on Chart 1. In Case 9, the blood platelets were studied following a gastric hemorrhage. Soon after the hemorrhage, the platelets were 190,000. They gradually rose during the first thirty days to 910,000, and did not reach their normal number until four months after the hemorrhage. At present, the blood picture in this case is normal.

In this group, the splenomegaly may be considered primary, as splenectomy is followed by exceptionally good results on account of the removal of two pernicious factors; namely, (1) a thrombocytolytic factor or an excessive destruction of platelets, and (2) a mechanical factor or pressure on important abdominal viscera and veins predisposing to hematemesis and even ascites (this occurred in one case). Our knowledge of the physiology of the spleen is still deficient, so that we must surmise that the increase in the reticulo-endothelial system in Banti's fibro-adenia is responsible for the increased destruction of the platelets. The overaction of this system may produce a great degree of thrombocytopenia even resulting in purpura hemorrhagica. Smears from the fresh spleens showed numerous blood platelets, although there was a marked diminuation in the peripheral blood.

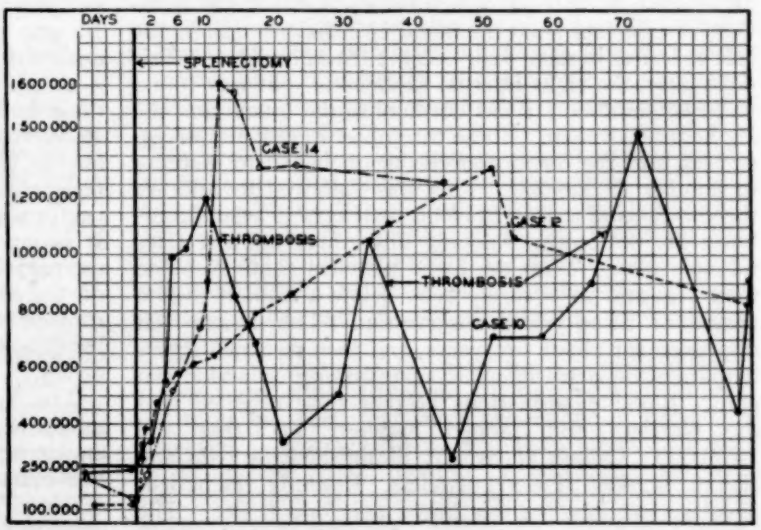

Chart 2.—Blood platelet variations following splenectomy in the thrombocythemic group of Banti's disease. The blood platelets in Cases 10 and 11 are still more than a million.

The thrombocythemic group following splenectomy is the most interesting. The blood platelet rise in such cases is prompt and remains elevated permanently. The high level of the blood platelets, however, varies. In Cases 10 and 14, the platelets have remained more than a million. In Case 12, the platelets varried between 600,000 and 800,000 for two and one-half years following splenectomy without causing any severe complications. Two months after operation, however, the patient was readmitted to the hospital on account of very severe abdominal pain. This was associated with a blood platelet crisis of 1,500,000. It was suspected that the patient had intra-abdominal thromboses. With rest in bed, the pain subsided, and the patient was discharged well.

Case 10 is the most remarkable one of the thrombocythemic group. Splenectomy was performed on account of severe pain of two years' standing in the left upper quadrant of the abdomen and secondary anemia.

20. Frank, E.: Aleukia splenica, Berl. klin. Wchnschr. **54**: 573, 1917.

A large spleen was present. Four days after the splenectomy, the blood platelets rapidly increased to a million. On the tenth day, the blood platelets were 1,200,000. On the twelfth day, the blood platelets suddenly fell to half that number. At first the significance of this fall was not realized, but the next day the patient began to complain of marked distention and considerable pain in the abdomen. On that day some old blood was found in the enema return. Dr. Libman considered the possibility of a thrombosis of the mesenteric veins.

The abdominal pain gradually subsided. One month after the operation, the blood platelets again rose to more than a millon. At that time, the patient began to complain of abdominal pain, especially in the epigastrium, and soon went into collapse. There was marked tenderness in the epigastrium. The stools contained no blood. There was gradual improvement, but the next day the patient vomited some blood. Immediately after the collapse, a platelet count was done and was found to be 280,000. The symptoms and enormous drop in blood platelets undoubtedly pointed to an intra-abdominal thrombosis, which removed enormous numbers of platelets from the blood circulation. Later, the left external jugular vein became thrombosed. A few days later, the right internal saphenous vein was found to be thrombosed; it was cordlike to the touch, and the leg became swollen. These thromboses gradually disappeared, and the blood platelets again began to increase in number to 960,000. This was followed by another thrombosis and a drop in blood platelets. These thromboses did not stop developing until three months after the operation. Then the blood platelets again resumed their rise and have rarely been below a million over a period of three years' observation. The patient felt improved for about two years, and then returned to the outpatient department again complaining of abdominal pain. Blood examinations at that time revealed that the platelets still ranged between 1,020,000 and 1,780,000. Quinin apparently diminished the pain and also the number of blood platelets. Recently, the patient developed ascites, but this lasted only one month. The anemia became more intense after the operation, but gradually disappeared. Lately, a chlorotic type of anemia has developed which does not improve with the use of iron and arsenic. The blood platelet reactions in this case and other cases of this series are shown on Chart 2.

Patient 14 was operated on because of large gastric hemorrhages which produced very severe anemia and marked weakness. The patient made an uneventful recovery. Within ten days, the blood platelets increased to 1,620,000. Three weeks after the operation, the platelets were still more than a million. The patient returned to the hospital one year later on account of intestinal hemorrhages, following a slight injury to the abdomen. It is interesting to compare the blood platelet reaction in this case to the one previously described in the thrombocytopenic group (Case 9). In the former, however, after the intestinal hemorrhage subsided, the blood platelet crises were followed by peripheral thromboses in the jugular, brachial and femoral veins. When the thromboses subsided, the blood platelets remained constantly more than a million.

Most of the blood platelets in the thrombocythemic cases are about two to four times greater than normal in size, and appear well preserved with practically no evidence of degeneration. Megakaryocytes were not found, but occasionally giant blood platelets were seen.

In reviewing cases of Banti's disease, when blood platelet counts were not done as a routine measure, I observed that a great number of patients died soon after operation from thrombosis of the portal vein.[21] Three patients of this series died from this complication.

Such cases belong undoubtedly to the thrombocythemic group. The rapid rise in number of blood platelets in the circulation is a predisposing factor in portal thrombosis. Thrombosis from this cause need not necessarily occur in diseased blood vessels; when, however, there is an associated atherosclerotic change in the portal system, the probability of the development of thrombosis following splenectomy becomes much greater. This experience is in line with the conclusion made by Libman[22] in connection with his studies of thrombosis of the coronary and cerebral arteries.[23] I shall not take up the discussion of the so-called thrombophlebitic splenomegaly described by Eppinger,[12] Warthin[21] and others. In certain respects, such cases resemble Banti's disease of the thrombocythemic group. We may diagnose such cases by the presence of peripheral thrombosis, as in the case of Kaznelson.[24] In one patient of this group, not operated on, the author found a low platelet count, which was due to a thrombosis of the portal vein. The formation of thrombi in these cases can now be more clearly understood from the study of the blood platelet crises following splenectomy. In a few cases of splenomegaly resembling Banti's disease, in which operation was not performed, I have occasionally seen blood platelet crises. It is possibly such crises that produce thrombosis in the portal system before splenectomy. An examination of the spleen and of the blood vessels at the hilum showed less marked atherosclerotic changes in the thrombocythemic group than in the thrombocytopenic group.

The splenic enlargement in the thrombocythemic group is most likely a secondary one and represents an attempt to regulate the blood platelet distribution. We must assume that there is an increased formation of blood platelets comparable to the increase of leukocytes in leukemia, and that the organ capable of inhibiting and destroying the blood platelets is the spleen, as reported by Kaznelson,[25] and by Brill and myself[26] in purpura hemorrhagica. Before the rest of the reticuloendothelial system becomes somewhat adequate in coping with the increased number of platelets, thrombosis that may even be fatal occurs. This group requires further investigation, and other means besides splenectomy may prove to be more efficacious.

CONCLUSIONS

1. Banti's disease is associated with marked disturbance of the number and functions of the blood platelets.

2. The disease may be divided into two main groups according to the number of blood platelets present

21. Warthin, A. S.: The Relation of Thrombophlebitis of the Portal and Splenic Veins to Splenic Anemia and Banti's Disease, Internat. Clin., Series 20, 4: 189, 1910.

22. Libman, Emanuel: "Some Observations on Thrombosis of the Coronary Arteries, Tr. A. Am. Phys. 34: 138, 1919.

23. "The tendency to thrombosis is something apart from the tendency to get arterial disease. Atherosclerosis of the heart and of the brain is very much more frequent than the occurrence of thrombosis in such arteries. It is important, therefore, to discover what caused the tendency to thrombosis in such individuals, and what could be done to prevent the condition."

24. Kaznelson, P.: Indications for Splenectomy, Wien. Arch. f. inn. Med. 7: 87, 1923.

25. Kaznelson, P.: Thrombolytische Purpura, Ztschr. f. klin. Med. 87: 133, 1919.

26. Brill, N. E., and Rosenthal, Nathan: The Treatment by Splenectomy of Essential Thrombocytopenia (Purpura Hemorrhagica), Arch. Int. Med. 32: 939 (Dec.) 1923.

before splenectomy and according to their variations after splenectomy, namely:

(*a*) Thrombocytopenic group. The blood platelets are diminished before splenectomy, followed by a transient rise and then fall to normal or above normal after splenectomy. The thrombocytopenia (or diminution of the blood platelets) is associated with a hemorrhagic tendency. A marked diminution of the blood platelets may be followed by symptomatic purpura hemorrhagica.

(*b*) Thrombocythemic group. The blood platelets are normal or somewhat subnormal before splenectomy but rapidly increase to enormous numbers after splenectomy (a million or more) and remain high permanently. This increase in blood platelets is associated with repeated thromboses and consequent hemorrhages.

3. The results from splenectomy in the thrombocytopenic group are brilliant, comparable to the results obtained in chronic purpura hemorrhagica. Splenectomy in the thrombocythemic group results either in symptomatic improvement (one case) or no improvement of the condition (two cases).

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ABSTRACT OF DISCUSSION

DR. SOLOMON SOLIS-COHEN, Philadelphia: I merely wish to ask the author of this paper a question: I have two cases of Banti's disease with hemorrhage. One patient has diminution in number of the blood platelets. The other patient has a practically normal blood platelet count. My younger colleagues favor operation, but I, being more conservative, am not, as yet, convinced that operation would be the best thing. Hence, I ask Dr. Rosenthal not the comparative prognosis in the two types of lesions, but the comparative conditions of life, as well as length of life, in the patients who have been operated on successfully and those who have been permitted to go without operation. I ask him also whether he has any comparative observations between the effect of irradiation of the spleen and removal of the spleen. Mere survival after operation—especially if it is accompanied by recurrent crises burdening life, or exciting terror of death—that is to say, if it is the mere prolongation of a wretched existence, is in my deliberate judgment not worth while as an operative result. If we can restore our patients to joy of life or even to relative comfort, though only for a brief while longer than life might last without operation, then I am willing to consent. I am not obstinately skeptical. I am desirous of being convinced, because I know of no medicinal treatment that is long effective in these cases, and in my limited experience, irradiation has not been productive of a much prolonged tenure of life. Dr. Rosenthal's paper is an important contribution both to diagnosis and to therapy. I hope he will accept and answer my question in the same spirit of judicial weighing of results in the balance as that in which it has been asked. Survival is one thing: recovery is another.

DR. NATHAN ROSENTHAL, New York: I have come to the conclusion that the blood platelet examination offers a means of prognosis. In the first group, that is, the thrombocytopenic type, the results have been brilliant. Ten years ago, a patient who had had severe hemorrhage, with ascites, was operated on, and is now perfectly well and able to work as a tailor. He has normal hemoglobin and a normal red cell count. The blood platelets number 350,000. In the second group, there is marked tendency toward lack of diminution of blood platelets before operation. This gives a clue as to whether the patient should be operated on or not. We must look also for evidence of thrombosis in this group. There may be peripheral thrombosis or thrombosis of the portal vein. In one case of Kaznelson's with peripheral thrombosis the patient died soon after operation from thrombosis of the portal vein.

Effect of Water Drinking at High Temperatures.—The free drinking of water during an exposure to high air temperature is of greatest benefit in maintaining the organism in a normal condition.—Flinn, F. B.: *Pub. Health Rep.* (May 1) 1925.

MERCUROCHROME-220 SOLUBLE IN GENITO-URINARY DISEASES

RESULTS OF INTRAVENOUS TREATMENT IN FIVE HUNDRED AND TWENTY-FIVE CASES *

F. H. REDEWILL, M.D.
AND
JAMES E. POTTER, M.D.
Lieutenant, M. C., U. S. Navy
SAN FRANCISCO

In a former paper on mercurochrome-220 soluble in acute and chronic gonorrhea of the genito-urinary tract, we [1] showed that one could obtain consistently good results in a large proportion of the cases by the intravenous injection of this dye. Indeed, in some of the severe cases cited, in which Hugh H. Young [2] in a recent article quotes our writing in detail, dramatic results have been achieved. We further pointed out, in reporting the seventy-seven cases, that great care should be taken in preparation and administration of the drug; that initial maximum doses were interdicted except in extreme cases; that there is a wide variance in the reaction of different individuals, and that while a certain number were not affected even by continued treatment, a few cases manifested a hypersensibility for mercurochrome.

On reviewing the 525 cases reported in this paper, the ratio of cured, improved, not improved and cases showing an idiosyncrasy for mercury has been strikingly similar to that mentioned in our former article. There have been some wonderful cures among the cases mentioned below of gonorrhea, rheumatism, pyelitis, cystitis, acute and chronic prostatitis, and seminal vesiculitis.

Also a high percentage of all cases have been cured or improved, while a few did not respond to treatment, and there has been that small percentage of cases that displayed a hypersensitiveness toward mercurochrome.

During our many months of treating cases with mercurochrome in the University of California outpatient department and the U. S. receiving ship at San Francisco, we have always observed some who would not respond to treatment while others showed an aggravating idiosyncrasy. We thus conducted a series of experiments to determine, if possible, (*a*) why certain cases show no reaction for mercurochrome; (*b*) to detect in advance, if possible, those cases that are hypersensitive to mercury, (*c*) and, in connection with these experiments, to devise a mercurochrome kidney function test.

BACTERIOSTATIC ACTION WITH MERCUROCHROME IN URINE

In our first series of experiments, we were guided by the following investigations, already reported: Piper,[3] on both animals and human beings, as well as Salant,[4] showed that mercurochrome is from three to

* Read before the Urological Section of the San Francisco County Medical Society, June 30, 1925.

* From the Department of Urology of the University of California Medical School and the Hooper Foundation for Medical Research.

1. Potter, J. E., and Redewill, F. H.: Mercurochrome-220 Soluble, Used Intravenously in the Treatment of Seventy-Seven Cases of Acute and Chronic Infections of the Urethra, Prostate, Seminal Vesicles, Epididymis and Bladder, U. S. Nav. M. Bull., to be published.

2. Young, H. H.: The Treatment of Infections, General, Local and Urinary, with the Intravenous Injection of Mercurochrome, Surg., Gynec. & Obst. **40**: 97-104 (Jan.) 1925.

3. Piper, E. B.: The Treatment of Puerperal Sepsis by the Use of Mercurochrome, with the Report of Animal Experimentation in the Chemical Disinfection of the Blood, Am. J. Obst. & Gynec. **4**: 532 (July) 1922.

4. Salant, William: The Pharmacology of Mercury, J. A. M. A. **79**: 2071 (Dec. 16) 1922.

four times less toxic than mercuric succinate, benzoate and acetate. Then Hill and Colston [5] proved that urine of rabbits, injected with mercurochrome from 1 to 10 mg. per kilogram of body weight, became bacteriostatic for *B. coli*, and that this inhibitive action did not increase proportionately with the increase in the amount of the drug used. If the drug was increased above a certain point, the bacteriostatic action of the urine did not increase but gastro-intestinal symptoms developed, and they believed that much of the drug is eliminated through the intestines when a large dose is administered, since, when rabbits are given small doses, no diarrhea is manifested, whereas when large doses are given, such as 10 mg. per kilogram, violent diarrhea develops within two hours, and the dye colors the feces. Young and Hill [6] also reported clinical cases in which they were not always successful with the dye in rendering the urine bacteriostatic.

BACTERIOSTATIC ACTION WITH MERCUROCHROME IN BLOOD

The effect of mercurochrome on the blood stream was demonstrated by Hill and Colston [7] by animal experimentation. The intravenous injection of the dye produced a bacteriostatic condition that was greatest within from fifteen to forty-five minutes, as contrasted with the bacteriostatic action of urine, which was from one to five hours. Two thoughts arise here: (1) What is the action of the drug on the kidneys, and (2) what is the bacteriostatic action of mercurochrome?

Regarding the former, Hill and Bidgood [8] showed that small doses, up to 7.5 mg. per kilogram of body weight, do not produce any changes in the renal parenchyma; but if the dose is increased to 10 mg. per kilogram, slight damage occurs to the tubular epithelium, which will clear up in two months, as proved by experimentation. It is generally agreed that a small dose of any mercury preparation is excreted mostly through kidneys that are healthy. When the kidney parenchyma is slightly damaged, not only is the mercurochrome injected into the blood stream turned back to the gastro-intestinal tract to carry off more than usual of the excess, but it is probable, in this case, that even a small dose of the dye still further injures already damaged kidneys, thus producing a sort of vicious cycle. Now, whether the kidneys are healthy or damaged, there is a definite ratio for a given dose of mercury in the amount excreted by the urinary tract and the gastro-intestinal tract for each individual.

This ratio, or may we call it the urinary-gastro-intestinal coefficient, varies in the individual with the amount of drug given, but, as we said above, it is not proportional to the dosage of mercurochrome. Normally, the proportion of mercury excreted between the urine and the feces varies, according to Lee,[9] the average being about 55 per cent. for the former and 45 per cent. for the latter. Excretion parallels absorption to a certain degree; but while there is no limit to the amount that may be absorbed, there is a decided maximum limit of excretion. The limit of mercury for the kidneys without serious damage seems to be 9 mg. daily.[10]

BACTERIOSTATIC ACTION

Regarding the so-called "bacteriostatic action," it is difficult to believe that the dye acts as a direct poison to the bacteria when given in the enormous dilution found in the blood stream. Sir Almroth Wright has pointed out in a series of ingenious experiments that the leukocytes furnish to the serum of the blood a bactericidal element capable of killing certain numbers of microbes. He has shown that this bactericidal substance can be instantly delivered to the blood stream by the leukocytes when called on to do so, by the introduction of either living or dead bacteria. He calls this substance polytrophic, since it kills all microbe invaders without distinction of species. It holds good for all antiseptic drugs used intravenously, for instance, arsphenamin, which, for several hours after injection, has been found by Wright to be bactericidal for staphylococci and streptococci.

ACTION OF MERCUROCHROME ON THE KIDNEYS

Repeatedly we have found that patients with high resistance and healthy young kidneys, as the many sailors reported below, could receive larger doses and show more rapid improvement without untoward effects than patients with low resistance and slightly damaged kidneys, even though the latter type of kidney might show no impairment by the phenolsulphonephthalein, urea and albumin tests. This fact may, in a measure, explain why some of the patients did not respond to treatment. The recent report of Piper [11] dwells on this point. He also mentions the danger of administering huge doses of mercurochrome to patients with greatly lowered resistance, and points out that the dye may be brought into disrepute by its promiscuous use in cases in which there is very high virulent infection.

METHOD OF DETERMINING BACTERIOSTATIC ACTION OF SEMINAL AND PROSTATIC FLUID

We noted above that in selected cases with moderate dosage several investigations have proved that the urine and blood may be both rendered bacteriostatic. The question arises, Does mercurochrome penetrate the genital tract in sufficient quantities to render the seminal fluid bacteriostatic, and does the amount excreted in the prostate and seminal vesicles vary in the different persons injected with the dye? The literature so far does not report any work on this subject. From our experience, in scores of cases, we found the red dye in expressed secretion from the vesicles and the prostate, although it has not been secreted in strong enough concentration to retard the activity of spermatozoa. In order to determine the bacteriostatic action of the prostatic and seminal fluid, it is necessary to collect the secretion on one treatment day for the control; on a subsequent treatment day the patient is first given 2 mg. per kilogram of 1 per cent. mercurochrome intravenously, the secretion collected by the Hogan method [12] and plated by the Piper method [3] as follows: Two tenths or more of the secretion is collected by means of a sterile suction pipet inserted within the lips of the meatus, and the contents are placed in a sterile Wassermann test tube. Exactly two tenths of this collected solution is placed in a second test tube diluted

5. Hill, J. H., and Colston, J. A. C.: Bacteriostatic Action of Urine After Intravenous Administration of Mercurochrome to Normal Rabbits, Bull. Johns Hopkins Hosp. **34**: 220-222 (July) 1923.
6. Young, H. H., and Hill, J. H.: Treatment of Septicemia and Local Infections by Intravenous Injections of Mercurochrome-220 Soluble and of Gentian Violet, J. A. M. A. **82**: 669-675 (March 1) 1924.
7. Hill, J. H., and Colston, J. A. C.: Effect of Intravenous Administration of Mercurochrome on Bacteriostatic Action of Blood, Bull. Johns Hopkins Hosp. **34**: 372-373 (Nov.) 1923.
8. Hill, J. H., and Bidgood, C. Y.: Effect of Intravenous Injection of Mercurochrome on Kidneys, Bull. Johns Hopkins Hosp. **35**: 409 (Dec.) 1924; abstr., J. A. M. A. **84**: 469 (Feb. 7) 1925.
9. Lee, R. V. A.: The Pharmacology of Mercury, J. A. M. A. **81**: 1748-1752 (Nov. 24) 1923.
10. Somholt, S.: Circulation of Mercury in the Body, Arch. Dermat. u. syph. **19**: 126, 1918.
11. Piper, E. B.: Blood Stream Infection Treated with Mercurochrome-220 Soluble Intravenously, Am. J. Obst. & Gynec. **9**: 7-17 (Jan.) 1925.
12. Hogan, J. F.: Duration of Infectivity of Gonorrhea in the Male, J. A. M. A. **84**: 194 (Jan. 17) 1925.

to 1 c.c. with 0.875 per cent. physiologic sodium chlorid solution and inoculated with one standard loopful of a twenty-four hour *B. coli* in beef infusion (p_H 7.6) broth; this inoculated solution is kept in an incubator at 37.5 C., and at intervals of one hour and twenty-four hours, 0.1 cm. of this solution is withdrawn, diluted, and plated in peptone agar. After incubation of these agar plates for from twenty-four to forty-eight hours, colonies are identified and counted. The following controls are run: Control 1, physiologic sodium chlorid solution without inoculation; Control 2, agar plates without inoculation; Control 3, physiologic sodium chlorid solution inoculated with *B. coli* culture; Control 4, prostatic fluid without inoculation. This last control is used to determine whether the prostatic secretion has *B. coli* or other types of bacterial infection, whether *B. coli* is present in the control, or whether the patient is not used for further experimentation.

TABLE 1.—*Results of Bacteriostatic Tests*

Class 1: Patient	Before Mercurochrome Injection	One Hour After Mercurochrome Injection	24 Hours After Mercurochrome Injection	One Hour After Patient Received Tenth Injection	Control 1: Physiologic Sodium Chlorid Solution	Control 2: Agar Plate	Control 3: Physiologic Sodium Chlorid Solution Inoculated with B. coli	Control 4: Prostatic Fluid Not Inoculated with B. coli
1	50,000,000	8,000,000	16,000,000	5,000,000	0	0	39,000,000	N. G. B. coli
2	22,000,000	5,000,000	11,000,000	5,000,000	0	0	48,000,000	N. G. B. coli
3	9,000,000	4,000,000	3,000,000	4,000,000	0	0	33,000,000	N. G. B. coli
4	60,000,000	11,000,000	7,000,000	5,000,000	0	0	39,000,000	N. G. B. coli
5	20,000,000	10,000,000	16,000,000	4,000,000	0	0	47,000,000	N. G. B. coli
6	56,000,000	27,000,000	21,000,000	15,000,000	0	0	37,000,000	N. G. B. coli
7	48,000,000	6,000,000	14,000,000	7,000,000	0	0	33,000,000	N. G. B. coli
8	33,000,000	8,000,000	9,000,000	7,000,000	0	0	22,000,000	N. G. B. coli
9	71,000,000	20,000,000	11,000,000	5,000,000	0	0	41,000,000	N. G. B. coli
10	55,000,000	5,000,000	7,000,000	1,000,000	0	0	34,000,000	N. G. B. coli
11	62,000,000	7,000,000	31,000,000	7,000,000	0	0	19,000,000	N. G. B. coli
12	45,000,000	14,000,000	17,000,000	9,000,000	0	0	28,000,000	N. G. B. coli
Class 2:								
13	38,000,000	34,000,000	36,000,000	41,000,000	0	0	40,000,000	N. G. B. coli
14	56,000,000	48,000,000	44,000,000	52,000,000	0	0	39,000,000	N. G. B. coli
15	71,000,000	64,000,000	65,000,000	69,000,000	0	0	44,000,000	N. G. B. coli
Class 3:								
16	35,000,000	44,000,000	38,000,000	46,000,000*	0	0	30,000,000	N. G. B. coli
17	47,000,000	49,000,000	50,000,000	60,000,000*	0	0	42,000,000	N. G. B. coli

Summary	Number of Patients	Average Number B. coli: One Hour After Mercurochrome Injection	Average Number B. coli: 24 Hours After Mercurochrome Injection	Average Number B. coli: After Receiving Six or More Mercurochrome Injections	General Condition
Class 1: Patients that showed marked bacteriostatic action with mercurochrome treatment.....	104	10,700,000	13,540,000	6,250,000	Much improved
Class 2: Patients that showed questionable bacteriostatic action with mercurochrome treatment.	12	52,800,000	51,640,000	44,360,000	Doubtful
Class 3: Patients that were intolerant to mercurochrome and showed questionable bacteriostatic action	9	47,400,000	45,300,000	55,600,000	No improvement

* One hour after patient received second injection. N. G. = no growth.

CLASSIFICATION OF PATIENTS

In Table 1 we have grouped all the patients on whom we have performed bacteriostatic tests into three classes. Class 1 includes all the patients whose prostatic secretion showed decided bacteriostatic action and who have received decided benefit from the treatment with mercurochrome. Class 2 is composed of patients whose seminal fluid has shown no bacteriostatic action and who have received no improvement with the dye. Class 3 includes patients that show an intolerance toward mercurial treatment, whose prostatic secretions show questionable bacteriostatic action, and who demonstrate but little improvement with the intravenous treatment. From a pathologic point of view we have found three types of prostatic condition among the patients of Class 2: first, a small, hard prostate, usually with adhesions; second, a medium large gland, nodular and indurated, with hardly any soft areas; and third, the large, soft, spongy prostate of old men. The first two types have no doubt a preponderance of fibrous tissue, while the last is a gland with sluggish secretion in a patient that has low resistance. In all these three types of Class 2 the vascular circulation evidently is not normal, and it is not surprising that mercurochrome does not penetrate the prostatic tissue of these patients.

Regarding Class 3, patients who are hypersensitive to preparations of mercury, whether the disturbance occurs on first taking the drug (idiosyncrasy [13]) or whether the intolerance develops later (anaphylaxis), the gastro-intestinal symptoms were the most common. Since the third group of patients excreted less mercurochrome in the urine than other types, and since the symptoms of intolerance were marked gastro-intestinal irritability, we made salivary tests to determine whether there would be increased ptyalism in this class, or whether this third group secreted more mercury in the saliva than was secreted by patients of the other classes. These two points were determined by the following process: A typical case was selected from each class. Saliva was collected by means of the dental saliva ejectors connected with individual bottles to suction water pumps. The saliva was collected in each case for one hour; then the patient was given 15 c.c. of 1 per cent. mercurochrome intravenously. After the lapse of one hour, the saliva was again collected for the same period of time. To determine the amount of mercury in the last set of secretions, we used the Whitton [14] process, as recommended by Dr. Walker of the Hooper Foundation. The secretion was evaporated to dryness in water baths and kept over night in desiccators. The residue was placed in a Whitton combustion crucible, and, instead of iron filings, portions of quicklime and slacked lime equal to the residue to be examined were added. The remaining technic was followed as described by Whitton.[14]

The patients of Class 3, as may be seen in Table 2, secreted twice as much mercury as patients of either other class.

13. Gougerot and Blamoutier: Bull. et mém. Soc. méd. d. hôp. de Paris **46**: 873-876 (June 2) 1922; abstr., J. A. M. A. **79**: 774 (Aug. 26) 1922.

14. Whitton, W. W.: The Determination of Mercury in Ores, California J. Tech. **4**: 33-39 (Sept.) 1904.

THE WHITTON PROCESS

The Whitton process of determining the amount of mercury in residue was used to determine the actual amount of mercury excreted in the urine in the three classes of patients mentioned above. Since it has been shown that the greatest amount of mercurochrome is excreted in the urine during the first five hours after the drug has been administered, patients to be examined were directed to empty the bladder, then 2 mg. per kilogram of 1 per cent. mercurochrome was given intravenously, and the total amount of urine passed in the next five hours was collected in one vessel and measured. Two hundred cubic centimeters of this urine was boiled to dryness, and the mercury was determined by the modified Whitton method. Then the amount of mercury was computed for the total volume of the urine excreted in the five hours. By multiplying this weight of mercury by 400, one could determine approximately the volume of 1 per cent. mercurochrome excreted during that five hour interval (Table 3, Column 8).

TABLE 2.—*Mercury in the Saliva*

Class	Patient	Amount of Saliva Collected One Hour Before Mercurochrome Injection, C.c.	Diphenylcarbazid Test	Amount of Saliva Collected During One Hour After Injection of 15 C.c. of Mercurochrome, C.c.	Weight of Mercurochrome in Saliva After Injection of 15 C.c. of Mercurochrome, Mg.
1	6	60	Negative	80	0.06
2	18	45	Negative	45	0.05
3	16	30	Negative	60	0.15

The multiplier 400 is obtained as follows: Mercurochrome is known to contain 26.88 per cent. of mercury. To simplify the formula below, A represents the weight of mercury, X the volume of mercurochrome; and since a 1 per cent. solution of the dye is used, then X equals $\frac{100\,A}{0.25}$, or X equals 400 A.

DIPHENYLCARBAZID TEST FOR MERCURY IN SEMINAL FLUID

It seemed advisable to be able to use, if possible, practical tests to determine whether or not a patient, when given a dose of mercurochrome, will secrete the dye in the prostatic and seminal vesical fluids, and also whether that patient will excrete normal amounts of the drug by the kidneys. With this end in view, we devised the two following simple clinical tests:

1. *Seminal Fluid Mercurochrome Test.*—A few minute grains of diphenylcarbazid are placed in a small test tube together with 0.5 c.c. of carbon tetrachlorid, chemically pure, shaken for a few seconds, and the contents poured into a second test tube containing the seminal fluid to be examined. The contents of the second test tube are shaken gently, with the carbon tetrachlorid solution settling to the bottom, and allowed to stand ten minutes. Should mercury be present, even in as weak as a 1:100,000 solution,[15] mercury-diphenylcarbazid is formed, which is purple, the depths of the color being in direct proportion to the amount of mercury present. A trace of mercury is a decidedly positive test because there is no danger of contamination, and we are dealing with such a small quantity of seminal fluid. Some specimens of seminal fluid show a very slight purple color with this test, which we represent by +; others show a light shade of purple that is more decided than the first, which we represent by + +; while there are some specimens that exhibit a still heavier purple tinge resulting from a thorough penetration of the prostate and seminal vesicles with the dye, which we represent by + + +. Those specimens that show no color with the diphenylcarbazid we represent by a minus sign; Column 10, Table 3, shows that the seminal fluids of Class 1 patients invariably give a two or three plus mercury test with one treatment of mercurochrome, whereas the fluid of Class 2 patients shows a minus or at best only a one plus; the seminal fluid of Class 3 patients is always minus with the diphenylcarbazid test.

2. *Colorimetric Mercurochrome Kidney Function Test.*—Mercurochrome solutions are made in twelve dilutions: 1:2,500; 1:5,000; 1:6,650; 1:10,000; 1:13,300; 1:20,000; 1:26,500; 1:40,000; 1:60,000; 1:80,000; 1:120,000, and 1:160,000. These test solutions are placed in twelve labeled test tubes of equal size. The patient first voids and then is given 2 mg. per kilogram of 1 per cent. mercurochrome intravenously, and in an hour voids again. To the second sample of urine is added enough 0.05 per cent. potassium chromate solution to bring the total volume to 100 c.c. If the patient voids more than 100 c.c. in the first hour, the amount is diluted to 200 c.c. and the result multiplied by 2. Some of this diluted urine is placed in a test tube similar to those used for the standard solutions above, and the color is matched with the known dilutions. The respective weights in milligrams of mercurochrome are seen in Table 3, Column 3. As an example: A patient is given a test injection of mercurochrome, the urine is diluted with diluent to 100 c.c., and if the color of the specimen of urine will match the test solution 1:20,000 mentioned above, then that patient has voided 5 mg. of mercurochrome in the first hour. We used 0.05 per cent.

TABLE 3.—*Mercurochrome Kidney Function Test*

Dilution of Test Solution	Weight of Mercurochrome in 100 C.c. Diluted Urine, Mg.	Test Percentage
1:2,500	40	120
1:5,000	20	100
1:6,650	15.03	90
1:10,000	10	80
1:13,300	7.52	70
1:20,000	5	60
1:26,500	3.77	50
1:40,000	2.5	40
1:60,000	1.66	30
1:80,000	1.25	20
1:120,000	0.833	10
1:160,000	0.625	Trace

Mercurochrome Kidney Function Test on Patients of the Three Classes: One Hour Test; Five Hour Test; Weight of Mercurochrome by Whitton Process; Percentage of Error; Diphenylcarbazid Test for Mercury in Seminal Fluid

		First Hour			Five Hour					
Patient	Class	Dilution	Mg. per 100 C.c.	Percentage	Dilution	Mg. per 500 C.c.	Percentage	Mg. Mercurochrome in 5 Hour Urine by Whitton Process	Percentage of Error	Diphenylcarbazid Mercury Test of Seminal Fluid
Col.	1	2	3	4	5	6	7	8	9	10
19	1	1:10,000	10	80	1:20,000	25	60	27.6	10.4	+ + +
20	1	1:10,000	10	80	1:20,000	25	60	24.4	2.4	+ + +
21	1	1:13,300	7.52	70	1:20,000	25	60	23.6	5.6	+ + +
22	1	1:13,300	7.52	70	1:26,500	18.85	50	20.04	6.3	+ +
23	1	1:10,000	10	80	1:13,300	37.5	70	36.4	3	+ + +
24	1	1:13,300	7.52	70	1:26,500	16.85	50	16.8	10.9	+ +
6	1	1:13,300	7.52	70	1:26,500	18.85	50	19.2	2.0	+ + +
18	2	1:20,000	5	60	1:40,000	12.5	40	12.4	0.8	—
15	2	1:26,500	3.77	50	1:40,000	12.5	40	12.8	13.6	+
25	2	1:20,000	5	60	1:20,000	25	60	28.4	13.6	+
16	3	1:60,000	1.66	30	1:80,000	6.25	20	6	4.16	—
26	3	1:80,000	1.25	10	1:160,000	3.125	Trace	2.8	7.2	—

15. Bottger, W.: Chem. Ztg. **38**: 817, 1915.

potassium chromate solution in distilled water as a diluent for the urines, as well as for the test solutions, instead of water. The weak potassium chromate solution, which has a color very similar to clear amber urine, is used instead of water to eradicate, as far as possible, the influence that the yellow color or urine has while testing for the delicate shades of mercurochrome. Urine heavily colored with bile may be decolorized at least to a light amber hue, before making the colorimetric test, by acidulating first with dilute hydrochloric acid and adding from 10 to 20 drops of a saturated solution of sodium nitrite, as suggested by Hench, Snell and Green.[16]

To determine the normal mercurochrome kidney function, we gave the test to twenty young, healthy sailors with the following average results: The first hour, the twenty urines, diluted to 100 c.c. and averaged, matched the 1 : 13,300 test solution. The second hour, they matched the 1 : 20,000 test solution, and in five hours the total average matched the 1 : 26,500 test solution. We assumed that the 1 : 13,300 test solution is 70 per cent., that the 1 : 20,000 is 60 per cent., and that the 1 : 26,500 is 50 per cent.; then the other test solutions are graded accordingly, the highest colored test solution being 120 per cent., and the next to the weakest solution being 10 per cent., while the 1 : 160,000 is rated as a mere trace. In the third horizontal column of Table 3 is presented the strength of test solutions expressed, each case in percentages. Now for a sample clinical test, it is evident that the estimation of the amount of mercurochrome voided in the first hour is all the determination that is necessary to ascertain whether the particular patient is excreting the drug in large enough amount to warrant the further administration of mercurochrome intravenously. That there is a small percentage of error in these tests is borne out by the work of Hirschfelder[17] as well as the estimated weights in milligrams of mercurochrome in Column 6, Table 3, for five hour urine as compared with the actual weights of the drug determined by the Whitton process for mercury, Column 8. Column 6 shows the estimated weight of mercurochrome by the kidney function test for five hour urine, Column 8 shows the weight determined by the Whitton process, and Column 9 the percentage of error.

Owing to lack of space, a detailed report of only one case representing a particular class will be given.

REPORT OF CASES

CASE 27 (Class 1).—*History.*—A laborer, aged 24, admitted, April 2, 1924, complained of pains in the spine and hips. There had been no serious illness previously. He first had gonorrhea in 1915 for three weeks, but was apparently cured. He had gonorrhea again three months before admission, and still had a chronic discharge. He stated that he had never had syphilis. The sexual powers were normal.

Four years before admission, he had pain in the right hip and also in the sacral region, and some pain in the left hip. He had some swelling in the upper costochondral junctions. This attack lasted five months and the patient was almost well except that the right leg was apparently shortened. He was in bed five months with the first attack; he had high fever and much pain. The last severe attack started seven weeks before admission. The most severe pain was across the back and the hips. The pains were continuous for three weeks; the patient could not sleep. He had now been up ten days, using crutches. The right leg was apparently 1 inch shorter than the left. The present urinary symptoms were a slight burning on voiding the urine; otherwise he was normal. The last severe attack of arthritis developed since the last infection with gonorrhea.

Examination.—Glasses 1, 2 and 3 showed shreds. There was no albumin or sugar. The specific gravity was 1.022. A centrifugalized specimen showed a few extracellular diplococci. The prostate was hypertrophied laterally with adhesions, though it was soft and not markedly nodulated. The seminal vesicles were enlarged and tender. The prostate was very tender on light massage. The expressed secretion contained 100 white blood corpuscles to a high power field. The Wassermann reaction was negative. The total phenolsulphonephthalein output was 60 per cent. The diphenylcarbazid test with prostatic fluid was + + +. The mercurochrome kidney function test gave a 1:10,000 dilution (80 per cent.). The bacteriostatic test before the first mercurochrome injection yielded 73,000,000 *B. coli.* One hour after 15 c.c. of mercurochrome, the bacteriostatic test yielded 23,000,000.

Treatment and Result.—Mercurochrome was injected intravenously; hot subtotal irrigations and injections of 0.5 per cent. solution of protargin strong were given. After four intravenous injections of mercurochrome, the patient discarded crutches. The apparent shortening of the limb disappeared, and he walks and feels better than he has for the last four months. The pains and stiffness have practically cleared up. The patient is still under treatment. No severe reaction followed the mercurochrome injections.

CASE 28 (Class 2).—*History.*—A seaman, aged 24, was admitted to the venereal restricted list, Sept. 23, 1924, with the history of having had gonorrhea nine months prior to admission. He stated that he had had no previous venereal infection. He had had no other serious illness. He acquired gonorrhea nine months before admission. He had had a chronic discharge since that time.

Examination.—A smear showed extracellular diplococci; Glasses 1, 2 and 3, shreds. The prostate was bound down and the lobes were irregular, with some nodulation in both lateral lobes. There were hard, cordlike adhesions between the prostate and vesicles. The massaged secretion contained 100 white blood corpuscles to a high power field; lecithin, +. There was no residual urine. The bladder capacity was 450 c.c.; the bladder was normal; the ureteral openings were well defined; the trigon was normal; the vesical neck was normal, the vera hypertrophied and edematous.

Treatment and Result.—From Sept. 25, 1924, to Feb. 5, 1925, the patient received three prostatic massages each week, one endoscopic treatment every ten days, and one course of fifteen injections of 1 per cent. mercurochrome intravenously. The urethra was dilated up to size 30 F., followed by silver nitrate instillations. The patient showed very little improvement. All treatment was discontinued for a period of three weeks. The patient's condition remained the same, with the exception that the active discharge was reduced to a "morning drop." February 2, the patient was injected with 15 c.c. of 1 per cent. mercurochrome solution after voiding. In one hour he voided and the prostate was massaged. The diphenlycarbazid test for mercury was made and proved negative; the mercurochrome kidney function test with the one hour urine showed a dilution of 1 : 26,500 (50 per cent.). March 2, the prostate was massaged, the seminal fluid collected, and *B. coli* culture inoculation made, which showed a count after twenty-four hours of 42,000,000. March 4, 15 c.c. of mercurochrome was injected, and in one hour the patient was massaged, the fluid was collected, inoculated with *B. coli* culture, incubated for one hour, plated, and in twenty-four hours the count was 48,000,000. After twenty-four hours' incubation of the prostatic *B. coli* mixture, plating was done again and incubated for twenty-four hours, and a count of 52,000,000 was found. Following two subsequent injections of mercurochrome, the diphenylcarbazid test was negative. This patient is a good example of the type of case in that, although he has shown no idiosyncrasy for mercurochrome, i. e., has had no severe reactions, yet he was given many treatments of mercurochrome; always had a maximum amount of pus in the prostatic secretion, and received no benefit from the mercurochrome treat-

16. Hench, P. S.; Snell, A. M., and Green, C. H.: The Excretion of Mercurochrome in the Bile, J. Pharmacol. & Exper. Therap. **25**: 142-144 (March) 1925.

17 Hirschfelder, A. D.; Malmgren, G., and Creavy, D.: Penetration of Mercurochrome, Acriflavine and Gentian Violet into Edematous Tissues, J. Pharmacol. & Exper. Therap. **24**: 439 (Jan.) 1925.

ment. There was no evidence of mercurochrome being secreted in the prostate and seminal vesicles.

CASE 16 (Class 3).—*History.*—A clerk, aged 51, who had been admitted to the neurology clinic, April 1, 1924, entered the urology clinic, May 9, complaining of frequency of micturition and slight dysuria. He had had one attack of gonorrhea twenty years before, with no complications. He stated that he had never had syphilis. He had had attacks of petit mal and dizziness since a child. There had been a dull pain in the lumber and perineal region for the past five years. The urinary symptoms consisted of frequency (twice at night) and slight burning on voiding for two years. The pain in the back was most severe on rising from a chair or on leaning over. In the perineum there was an intermittent slight, dull, deep pain. The sexual powers had been weak for five years. Erections were poor; ejaculations, normal.

Examination.—Glasses 1, 2 and 3 were clear, with shreds. There was no albumin or sugar. The Wassermann reaction was negative for the blood and spinal fluid. The prostate was enlarged and slightly nodular, both lateral lobes, and bound down with adhesions. It was very tender on massage. The patient was extremely "nervous" and sensitive. Prostatic massage yielded 100 white blood corpuscles, and lecithin. Culture of the urine was negative for acid fast and other bacteria. The patient for months had been very sensitive to the passing of sounds, even with procain, 4 per cent. Now he can pass size 28 F. without much trouble. Cystoscopy disclosed nothing except an hypertrophied and inflamed vera.

TABLE 4.—*Summary of Cases*

	Total Number of Cases	Complications	Mercurochrome and Other Treatment	Cured with Mercurochrome Alone	Under Treatment	Hospital Cases	Cured with Mercurochrome and Other Treatment	Much Improved	Not Improved	Left Before Treatment Completed
Acute gonorrheal urethritis and complications	174									
Epididymitis	...	20	20	2	0	0	18	0	0	0
Acute prostatitis	...	14	14	1	4	0	9	0	0	0
Seminal vesiculitis with prostatitis	...	5	5	0	2	0	0	3	0	0
Acute cystitis	...	9	9	3	3	0	3	0	0	0
Gonorrheal urethritis	...	120	120	8	10	0	96	0	0	6
Acute gonorrheal rheumatism	...	6	6	3	1	1	1	0	..	..
Chronic gonorrhea	115									
Chronic arthritis	...	29	29	4	4	0	9	6	3	3
Prostatitis	...	48	48	0	6	1	30	5	2	4
Chronic cystitis	...	20	20	2	3	0	12	3	..	..
Chronic seminal vesiculitis	...	18	18	0	6	0	6	2	2	2
Genito-Urinary Tract Involved Without Demonstrable Gonorrheal Infection										
Chronic prostatitis	176	..	176	0	74	0	58	20	10	14
Chronic vesiculitis	20	..	20	0	5	0	11	4	..	..
Chronic cystitis	40	..	40	1	5	2	22	5	5	0

Treatment and Result.—The patient was treated until the first of this year irregularly with routine massage, irrigations and deep instillations. January 9, he was given 10 c.c. of mercurochrome intravenously, which resulted in a violent reaction; there was severe abdominal pain for four hours, vomiting, diarrhea and high temperature. Mercurochrome treatment was discontinued for three weeks. As we were conducting these new experiments and were anxious to determine the exact action of the drug on this type of patient, we persuaded him to take further mercurochrome treatment. January 30, he was given 15 c.c. of mercurochrome intravenously, the saliva having been collected for one hour previously; then with the lapse of one hour after the drug was administered he was given a prostatic massage, the prostatic fluid was collected, and the saliva was collected for one hour.

One hundred per cent. more saliva was secreted in the second hour following the injection of mercurochrome as compared with the secretion before the drug was given; also he secreted 0.15 mg., which was twice as much of the dye as the other two patients tested. The diphenylcarbazid test for mercury in the seminal fluid was negative.

Some of the seminal fluid from this treatment was saved for the bacteriostatic test, which read as follows: One hour after mercurochrome was given, the bacteriostatic test was 44,000,000. January 28, prostatic fluid was collected for the bacteriostatic test, and the reading before mercurochrome injection was 35,000,000. Twenty-four hours after the bacteriostatic test the count was 38,000,000. One hour after the patient had received two injections, the bacteriostatic count was 46,000,000. When the last mercurochrome injection was given, the patient first voided and the urine was collected one hour later and also for the next four hours, and the mercurochrome kidney function test was found to be: first hour, dilution 1:60,000 (30 per cent.), and five hours, 1:80,000 (20 per cent.). As demonstrated by the foregoing tests, mercurochrome is not a therapeutic agent in the treatment of this case; the patient probably excretes a very large proportion of the drug by the gastro-intestinal tract, and there is no secretion of the dye in the prostate or seminal vesicles.

REVIEW OF FIVE HUNDRED AND TWENTY-FIVE CASES

In reviewing briefly the 525 cases reported in Table 4, it will be noted in the last column that twenty-nine patients left before treatment was completed. This leaves 496 patients, of whom only twenty-two were not improved, or 4.4 per cent. of the series. Of the remaining 474 patients, only twenty-four, or 5 per cent., were cured with mercurochrome alone given intravenously. This goes to show that only in a very few urologic cases can one depend on mercurochrome alone when given intravenously to effect a cure. Nor can one expect with such a maze of symptoms and pathologic conditions as are manifested in the practice of urology that a drug given only by way of the blood stream can be a "cureall." In scores of these cases, however, by giving topical applications, deep instillations and irrigations of mercurochrome in conjunction with the intravenous medication, remarkable results have been obtained. Indeed, in nineteen out of twenty-nine arthritis cases and in half the cases of acute gonorrheal rheumatism, marvelous results were obtained with the first few treatments of mercurochrome intravenously. The development of the diphenylcarbazid test for mercury and the mercurochrome kidney function test has materially decreased the number of cases listed as "not improved." Patients desiring the mercurochrome treatment are first given these two tests, and after the first intravenous injection the patients are at once classified as to whether or not they are proper cases for such medication. A large proportion of the patients under this treatment are young men with healthy kidneys and high resistance. Few sailors at the U. S. receiving ship, San Francisco, have been refused treatment with the intravenous medication on account of poor mercurochrome kidney function test. Quite a number of the patients applying to the clinic for treatment are not suitable for this medication. Thus, by means of these tests we have ruled out practically all of what was heretofore experimental medication.

CONCLUSIONS

1. Mercurochrome-220 soluble is one of the most important new remedies for use in intravenous medication.

2. This drug is excreted in large quantities by the kidneys and also secreted through the prostate, seminal vesicles and other glands of the genito-urinary tract. Thus this dye comes in direct contact with the inflamed areas of this tract, by way of the urine and blood stream.

3. To obtain the best results, this remedy should be given in small enough doses to avoid a too early saturation. Patients who respond best to intravenous mercurochrome injections have mild reactions.

4. Acute rheumatism, synovitis, myalgia, neuritis, arthritis and other manifestations as a result of absorption from the prostate and seminal vesicles as sites of focal infection have cleared up on the intravenous administration of mercurochrome.

5. A large number of acute gonorrheal urethritis, epididymitis, prostatitis and seminal vesiculitis cases cleared up rapidly with this medication.

6. The drug should be freshly prepared and given every forty-eight hours.

7. Given judiciously, mercurochrome is one of the most efficient remedies to be used in ambulatory cases; i. e., patients can be treated in the dispensary and the clinic.

8. Expressed prostatic fluid and seminal fluid has decided bacteriostatic action.

9. Patients showing a hypersensitiveness for intravenous mercurochrome injections will secrete a proportionally greater amount in the saliva and gastro-intestinal tract than by way of the kidneys.

10. By the use of the diphenylcarbazid test of mercury in the seminal fluid, and the mercurochrome kidney function test, it is possible, with the first intravenous mercurochrome injection, to detect patients that are not suitable for the continuous use of this drug.

CHRONIC HEREDITARY AND FAMILIAL HEMOLYTIC JAUNDICE

WITH SPLENOMEGALY AND HEPATOMEGALY: PRELIMINARY REPORT ON FIVE CASES UNDER STUDY *

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Chronic hereditary and familial hemolytic jaundice with splenomegaly and hepatomegaly is comparatively a rare condition. It is closely related to the condition described by Murchison, in 1885, by Minkowski,[1] in 1900, and by Chauffard,[2] in 1907, as congenital or familial hemolytic jaundice. The characteristic features common to the conditions are the marked increase in the number of reticulated red blood cells, and the great fragility of the red cells when exposed to hemolytic agents. They differ in the very decided functional activity of the liver and its relation to the reticulo-endothelial system.

GENERAL DESCRIPTION

In many ways the course of these conditions is much the same, simulating pernicious anemia; it is one of the crises followed by periods of remission, but it is not necessarily fatal. In a great many cases, as one now under study, the patient lives to the sixth decade. As a rule, a crisis follows fatigue, excitement, indiscretion of diet, stimuli to the vegetative nervous system, or acute infection. In the splenomegalic type, the patient vomits much bile, the spleen enlarges and becomes tender, and there may be a great increase in the degree of the anemia present, with an absence of the concomitants of ordinary obstructive jaundice, such as light colored stools, choluria, pruritus and slight icterus. The condition of chronic hereditary and familial hemolytic jaundice with splenomegaly and hepatomegaly shows the marked variation of obstructive jaundice with slight subicteric discoloration of skin and sclerae. After a variable period there is a recession of symptoms and the patient regains a physical state as before the crisis.

HEREDITY

This type of the disease, with splenomegaly and hepatomegaly, showing anemia and low grade jaundice can usually be found in many members of the family, and can be traced, as in the patients now under study, through five generations. There does not appear to be any sex factor in the transmission of the disease, males and females, so far as births permit, being affected in almost equal numbers.

JAUNDICE

The jaundice, however slight it may be, is usually present from birth. Crises bring about signs of obstruction of the bile passages; the stools are free of bile pigment, while the urine contains urobilin. These observations are at variance with those of other writers (Barker,[3] Lewis,[4] Giffen,[5] Krumbhaar[6]), but the findings in the five cases now under study confirm them. Bilirubinemia is present and the skin is of a slight subicteric tint, but not so marked as in pernicious anemia.

The spleen is enlarged, firm, and usually movable and seldom tender except during a crisis. It may extend from five to eight finger breadths below the costal margin. The liver may extend from one to three finger breadths below the costal margin in the right mammillary line. Frequently the gallbladder is distended and may contain stones.

ANEMIA

The anemia, like the gravity of the condition, varies greatly in different cases or at different periods in the same case. It is of moderate degree except during the crisis, when the count may drop from 500,000 to 1,000,000 below the average. In the series of cases now under study, the average red cell count is more than 3,000,000 and rarely falls below 2,000,000. The color index is relatively high before a crisis and may show a low index of 0.6 after the exacerbations. In this type the hemoglobin is greatly diminished. Anisocytosis and poikilocytosis are marked, with microcytes especially numerous. The blood platelets are frequently over 1,000,000. Megalokaryocytes are rarely found in the blood, but in the oldest patient of the series a few have been observed.

The resistance of the red blood corpuscles to salt solution normally begins at about 0.45, and is completed at 0.34 per cent. In this disease, it begins at 0.6 per cent., or even 0.7 per cent., and may be complete at 0.5

* Read before the Panhandle District Medical Society, Amarillo, Texas, April 14, 1925.

1. Minkowski, O.: Ueber eine hereditäre, unter dem Bilde eines chronischen Ikterus mit Urobilinurie, Splenomegalie and Nieronsiderosis verlaufende Affektion, Verhandl. d. Kongr. f. inn. Med., Wiesbaden **18**: 316, 1900.

2. Chauffard: Les ictères hemolytiques, Sem. méd. **28**: 49-52, 1908.

3. Barker, L. F.: Clinical Medicine, Philadelphia, W. B. Saunders Company, 1922.

4. Lewis, D. S.: Congenital Hemolytic Jaundice, Canad. M. A. J. **13**: 119, 1923.

5. Giffen, H. Z.: Hemolytic Jaundice: A Review of Seventeen Cases, Surg., Gynec. & Obst. **25**: 152-161, 1917. Personal communication to the author, Nov. 18, 1924.

6. Krumbhaar, E. B.: A Classification and Analysis of Clinical Types of Splenomegaly Accompanied by Anemia, Am. J. M. Sc. **150**: 227-245, 1915.

per cent. There are frequently exceptions to these findings. In one case the hemolysis began at 0.58 per cent., and was complete at 0.36 per cent. The degree of resistance, however, relatively remains the same. Another feature becomes apparent when a special method of searching for unripe cells, the "vital staining method," introduced by Widal, Abram and Brule, is applied. When the blood is stained with brilliant cresyl blue, the red cells show reticulation up to 15 or even 30 per cent. It would appear that the bone marrow reacts efficiently to the demands for increased blood formation. There are no characteristic changes in the leukocyte count.

URINE AND STOOLS

The urine is usually highly colored and of a dark, orange brown, owing to the presence of excessive amounts of urochrome.

Krumbhaar, Lewis and McVey[7] maintain that the stools are never clay colored and often contain from ten to twenty times the normal amount of urobilin, thus giving evidence of the severity of the blood destruction. Again it will have to be said that there are frequent exceptions in this condition with marked hepatomegaly.

ETIOLOGY

The etiologic factors are still undetermined. Chauffard believes that tuberculosis and syphilis in the parent are important predetermining factors. Others (Widal, Vaquez) hold that the primary fault is in the red cells themselves. Minkowski, Chauffard and Banti support the theory of exaggerated functioning of the spleen. This is supplemented by the great improvement that follows splenectomy. The influence of the spleen is not entirely paramount for, in the majority of cases, the red cells show a persistent increased fragility even after the removal of the organ.

DIAGNOSIS

Splenomegaly and hepatomegaly, subicteric tint of the sclerae, the anemia, the urobilinuria without bilirubinuria, and the decreased resistance of the red blood corpuscles to hypotonic salt solution make the diagnosis certain. This is usually supported by other cases in the family.

The differential diagnosis from Banti's disease should be easily made by the test for resistance of the erythrocytes, acholuric jaundice, great increase of urobilin in the stools at intervals between exacerbations, and reticulated red blood corpuscles. From the hemolytic type of pernicious anemia, the differentiation may be difficult. A typical blood picture, however, is so relatively constant that in most cases few difficulties are presented. Acute hemolytic anemia is distinguished by its transient nature as well as by the absence of many of the characteristic features of hemolytic jaundice. Gaucher's disease (large-cell splenomegaly) is characterized by a chronic anemia and marked splenomegaly due to peculiar, large vesicular cells, which may also be found in other parts of the blood-making system. The most prominent sign is the progressive enlargement of the spleen; abdominal discomfort is frequently the first indication of the presence of the disease. The anemia of chlorotic type is never very severe. Liver enlargement secondary to that of the spleen may reach considerable proportions. A peculiar yellowish, wedge-shaped thickening of the conjunctivae, commonly seen on both sides of the cornea, and brownish discoloration of the skin is a distinctive differential feature. A diagnosis of Gaucher's disease is best made after examination of the pathologic material.

The characteristic crises, with slight icterus and abdominal pain, suggest gallstones. In fact, the Mayo Clinic reports gallstones in 60 per cent. of cases of hemolytic jaundice. This complication, however, should not obscure the presence of other marked symptoms. Confusion should not exist when anemia, jaundice and splenomegaly and hepatomegaly are in evidence.

In the mild, uncomplicated cases, a good condition of health may continue into the fourth or fifth decade. The severe cases usually fluctuate between a state of semi-invalidism and absolute confinement to bed during the periods of crisis. Death may occur in complicated cases during an exacerbation.

REPORT OF CASES

CASE 1.—Mrs. C. B., a widow, aged 56, height 64¾ inches (164 cm.), weight 104¾ pounds (47.5 kg.), temperature 98 F., came under my service, Nov. 11, 1924, complaining of attacks of gallbladder trouble and of indigestion. She stated that she had had a large spleen and liver since childhood; the grandfather had liver trouble and enlarged spleen and died at the age of 70 of pneumonia; the grandmother died at 90 of old age; the father died at 32 of liver trouble; the mother was living and well at 76; one paternal uncle and one paternal aunt died of liver trouble; one uncle died of abscess of the spleen; three children died in infancy; two daughters were living, one in apparent good health at 30, who had had a cholecystectomy at 29; one in fair health at 29, who had had a splenectomy at 26. Investigation revealed that these spleens were not enlarged from tuberculosis, syphilis or malaria.

The patient's habits had been good; she was of a nervous temperament. She had had the commoner diseases of childhood; "bilious fever" at 12; influenza in 1890, and frequent attacks since that time. The patient injured the lower end of the spine by a fall when 16; the forearm was broken two and five years before I saw her.

Examination of the respiratory apparatus was negative. The pulse was 78; there was occasional tachycardia; the radial arteries were palpable, and were not calcified; the heart and the aorta were normal. There was no dyspnea and no edema. The blood pressure was 100 systolic and 70 diastolic.

Blood examination revealed: red blood corpuscles, 4,120,000; hemoglobin, 60 per cent.; white blood corpuscles, 8,100; differential count: polymorphonuclear neutrophils, 48 per cent.; polymorphonuclear eosinophils, 1 per cent.; polymorphonuclear basophils, 1 per cent.; small mononuclears, 38 per cent.; large mononuclears and transitionals, 10 per cent.; a few normoblasts. Anisocytosis and poikilocytosis were marked. The blood platelets numbered 900,000. A few megalokaryocytes were seen (iron-hematoxylin stain). The blood, stained with brilliant cresyl blue, showed reticulation of the red cells to 30 per cent. Test of red cells to salt solution showed that hemolysis began at 0.6 per cent. and was complete at 0.4 per cent. The color index was 0.8. The spleen was somewhat tender and movable, and extended four finger breadths below the costal margin. The Wassermann reaction was negative.

Attacks of indigestion and gallbladder trouble dated back to the age of 12, but the patient had not associated the condition with enlargement of the spleen. Gaseous eructations and abdominal pain were relieved only by a hypodermic injection of morphin. Paroxysms came on at irregular intervals, varying from six months to two years. Pain occurred frequently after eating. There was slight constipation. Physical examination revealed the liver extending two finger breadths below the costal margin in the right mammillary line. The patient complained of tenderness on palpation of the right upper quadrant. The gallbladder was markedly enlarged, and stones were easily recognized. The stomach contents contained no free hydrochloric acid; the total acidity was 38 acidity per cent.; there was no occult blood; there were no Oppler-Boas bacilli. The duodenal contents consisted of viscid fluid, neutral to litmus, and turbid; the bile was thicker and darker than normal; there

7. McVey, C. L.: Splenomegalic Hemolytic Jaundice, M. Rec. 47: 864, 1920.

were fragments of bile thrombi. The feces contained bile and urobilin, except during a crisis.

Examination of the urogenital apparatus showed hydronephrosis of the right kidney. The urine was normal except for indican and urobilin; there were a few casts and white corpuscles. The phenolsulphonepththalein output was 40 per cent. in two hours. The pelvic examination was negative.

No mental anomalies were detected. The patient slept fairly well. There were occasional cramps in the limbs. Bilateral deafness had existed since 1890. There was slight pruritus after attacks of pain in the "gallbladder." The sclerae and skin had a slight subicteric tint.

CASE 2.—R. R. J., a boy, aged 6, height 47 inches (120 cm.), weight 49 pounds (22 kg.), temperature 98.6 F., came under my service, Nov. 17, 1924, complaining of headache, and pain in the left side (on exertion), and "biliousness." These conditions had existed since birth. He was the grandson of Patient 1. The father was living and well at 27; the mother was living and in fair health at 29; one brother was living and in good health at 4; there were no sisters. In 1923, he had a slight attack of influenza.

The chest was normal. The right middle turbinate was enlarged. The nasal septum was deviated. The tonsils and adenoids were hypertrophied. The pulse was 80; the heart, normal. There was no dyspnea or edema. The blood examination showed: red blood corpuscles, 3,650,000; hemoglobin, 50 per cent.; white blood corpuscles, 7,800; differential count: polymorphonuclear neutrophils, 46 per cent.; polymorphonuclear eosinophils, 2 per cent.; polymorphonuclear basophils, 1.5 per cent.; small mononuclears, 39 per cent.; large mononuclears and transitionals, 8 per cent. There was marked anisocytosis and poikilocytosis. The blood platelets numbered 1,100,000. Diminished resistance of red cells to salt solution began at 0.7 and was complete at 0.5. The color index was 1. Reticulated cells were 34 per cent. The lymph glands were normal. The spleen was hard, was movable, and extended five finger breadths below the costal margin. The Wassermann reaction was negative. The Pirquet test was negative.

The appetite was good. There were no eructations. The bowels were regular. During the attacks, the stools were clay colored and frothy. Palpation of the liver edge showed that it extended two finger breadths below the costal margin in the right mammillary line. The patient complained of slight tenderness over this area. Otherwise the examination of the abdomen was negative.

The patient voided a large quantity of dark, orange-brown urine the first time in the morning and several times during the day, but not at night. The urine was normal except for urobilin. The skin and the sclerae had a slight subicteric tint during exacerbations.

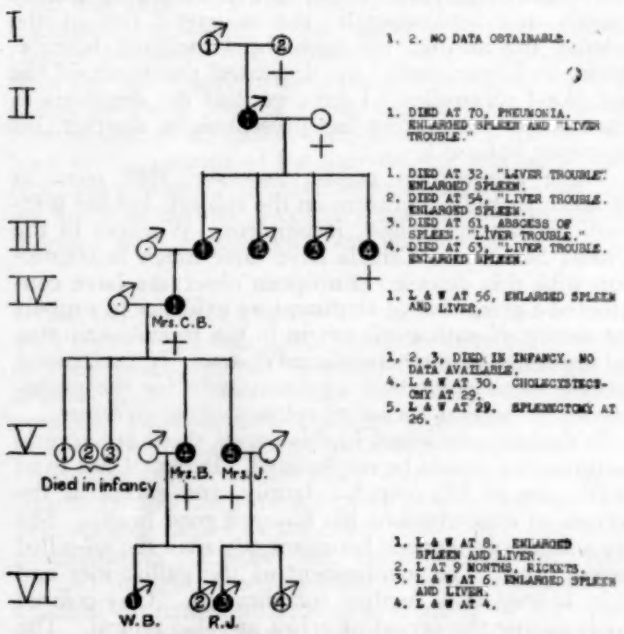
CASE 3.—W. S. B., a boy, aged 8 years, came under my service, Nov. 26, 1924, complaining of pains in the stomach and frequent headaches. The father was living and well at 39. The mother was living and in fair health at 30. One brother was living at 9 months, under treatment for rickets. There were no sisters. The patient had scarlet fever in 1921; whooping cough in 1923, and measles in 1924. A tonsillectomy was performed in August, 1924.

The respiratory and circulatory apparatus were normal. The blood examination revealed: red blood corpuscles, 3,100,000; hemoglobin, 60 per cent.; white blood corpuscles, 7,900; differential count: polymorphonuclear neutrophils, 48 per cent.; polymorphonuclear eosinophils, 1.5 per cent.; polymorphonuclear basophils, 1 per cent.; small mononuclears, 40 per cent.; large mononuclears and transitionals, 10 per cent.; a few normoblasts. There was considerable anisocytosis and poikiolcytosis. The blood platelets numbered 980,000. The fragility test of the red corpuscles showed that hemolysis began at 0.58 per cent. and was complete at 0.36 per cent. The color index was 1.1. Reticulated cells numbered 20 per cent. The lymph glands were normal. The spleen was hard, was movable, and extended two finger breadths below the costal margin. The Wassermann and tuberculin tests were negative.

The patient had a good appetite. There were no gaseous eructations. Pain in the stomach occurred only at the time of a crisis, at various intervals extended from three months to eighteen months. The bowels were regular. Physical examination showed the liver extending one finger breadth below the costal margin in the right mammillary line; otherwise it was negative. The stools during exacerbations were clay colored. The urine was normal except for the dark, orange-brown color and the presence of urobilin. The skin showed an earthy tint; the sclerae showed a slight subicteric tint, which was more marked at the time of the crises.

CASE 4.—Mrs. J. B., aged 30, came under my service, Sept. 15, 1924, complaining of weakness and a general rundown condition. She was the daughter of Patient 1 and the mother of Patient 3. She had the more usual diseases of childhood and had had "bilious attacks" since childhood. There was nothing unusual in the personal history except that when three months pregnant with the last child it was found necessary to remove the gallbladder during an attack. The gallbladder contained many stellate stones, which rapidly disintegrated after several weeks. Following childbirth she was confined to bed with septic fever. Since that time she had felt "generally all in," but after removal of the gallbladder had not had any "bilious attacks."

The patient was fairly well nourished. Her lips were pale, and her skin presented a peculiar subicteric tint. The temperature was normal. The pulse rate was slightly accelerated, being 84 to the minute. The rate of respiration was 20 a minute. The thorax was normal. The edge of the spleen was on a level


I
II
III
IV
V
VI
1, 2. NO DATA OBTAINABLE.
1. DIED AT 70, PNEUMONIA. ENLARGED SPLEEN AND "LIVER TROUBLE."
1. DIED AT 32, "LIVER TROUBLE." ENLARGED SPLEEN.
2. DIED AT 54, "LIVER TROUBLE." ENLARGED SPLEEN.
3. DIED AT 61, ABSCESS OF SPLEEN. "LIVER TROUBLE."
4. DIED AT 63, "LIVER TROUBLE." ENLARGED SPLEEN.
1. L & W AT 56, ENLARGED SPLEEN AND LIVER.
Mrs. C.B.
1, 2, 3, DIED IN INFANCY. NO DATA AVAILABLE.
4. L & W AT 30. CHOLECYSTECTOMY AT 29.
5. L & W AT 29. SPLENECTOMY AT 26.
Died in infancy
Mrs. B.
Mrs. J.
1. L & W AT 8. ENLARGED SPLEEN AND LIVER.
2. L AT 9 MONTHS, RICKETS.
3. L & W AT 6. ENLARGED SPLEEN AND LIVER.
4. L & W AT 4.
W.B.
R.J.

Occurrence of chronic hereditary and familial hemolytic jaundice with splenomegaly and hepatomegaly in six generations: All patients lived in the same community within the radius of half a mile. The cases reported in detail were: Case 1, IV, 1; Case 2, VI, 3; Case 3, VI, 1; Case 4, V, 4; Case 5, V, 5. L. and W. means "living and well."

with the costal margin. The spleen seemed fairly hard, but movable. There was no marked tenderness. The liver, on palpation and percussion, was normal in size. The patient complained of a little tenderness in the right upper quadrant. Examination of the abdomen was otherwise negative. Pelvic examination revealed a lacerated perineum and laceration of the cervix uteri. Blood examination revealed: red blood corpuscles, 4,200,000; hemoglobin, 80 per cent.; white blood corpuscles, 7,850; differential count: polymorphonuclear neutrophils, 80 per cent.; polymorphonuclear eosinophils, 8 per cent.; small mononuclears, 18 per cent.; large mononuclears and transitionals, 6 per cent. The platelets numbered 400,000. The fragility test was normal: 0.45 and 0.3. The reticulated cells were 3 per cent. The Wassermann reaction of the blood serum was negative. The digestive apparatus showed nothing unusual. The urine was normal except for a trace of indican.

CASE 5.—Mrs. L. R. J., daughter of Patient 1 and mother of Patient 2, seen, Oct. 10, 1924, had been under the service of Dr. H. Z. Giffen of the Mayo Clinic for observation and treatment. Dr. Giffen wrote that the patient came under his observation, Aug. 19, 1921. She had been well up to the age of 8 years. At that time she became quite anemic, but not especially jaundiced. Later she developed occasional attacks of intermittent jaundice until the time of operation. During the eight months

preceding her visit to the Mayo Clinic she had had more trouble than formerly.

The spleen was considerably enlarged. The red cell count was 2,900,000, and the differential count showed nothing of especial significance. A reticulated cell count was high, 9 per cent., and the fragility of the red cells was definitely increased. At that time a history of the mother's condition was obtained. She stated that the mother had an enlarged spleen and had been jaundiced for about twenty-five years. The mother's father was said to have died of some sort of liver trouble. One child of the patient was also said to be anemic and to have recurrent "bilious" attacks. Splenectomy was done, Sept. 27, 1921. The spleen weighed about 1,000 gm.; gallstones were not present. The common duct was normal; the appendix contained fecal concretions and was removed. Exploration was otherwise negative.

COMMENT

The studies made thus far in these cases permit certain definite statements regarding the diagnosis. Patients 1, 2 and 3 were suffering from a typical chronic hereditary and familial jaundice with splenomegaly and hepatomegaly syndrome, as manifested by splenomegaly and hepatomegaly, the subicteric tint of the sclerae, the anemia, the urobilinuria without bilirubinuria, and, specifically, the decreased resistance of the red blood corpuscles. I have verified the diagnosis in Case 4, and Dr. Giffen has presented, in abstract, his inference in Case 5.

There are certain points, however, that seem at variance with the literature on the subject, but the textbook version is, at best, incomplete. Workers in the United States and Canada have done much in connection with this disease. European observers have contributed a great deal of confirmatory evidence to support the theory of pathogenic origin in the reticulo-endothelial apparatus of the hepatolienal system. In fact, recent investigations point to it as responsible for the pathogenesis of several forms of splenomegalic cirrhosis.

In the cases reviewed in this paper, there are several features that should be emphasized. Patient 1 has lived to the age of 57, reared a family, and except at the periods of exacerbations has enjoyed good health. She has a more pronounced hepatomegaly than the so-called typical case. The involvement of the gallbladder and right kidney is a further complication. Clay-colored stools during the period of crises are also typical. The appearance of megalokaryocytes in the blood, I would infer, is rather unusual. The findings in Cases 2 and 3 correspond to those found in Case 1 with the exception of gallstones, tumor of the kidney, and megalokaryocytes. A very important point, deserving more than passing notice, is the operative results in Cases 4 and 5. Patient 4 was apparently cured by cholecystectomy; Patient 5 has secured satisfactory results from a splenectomy.

These pertinent facts have a distinct bearing on probable etiologic factors. Is the condition primarily a pathogenic liver condition with a compensatory functional activity of the spleen, or is the reverse true? I am inclined to the view that the disease is of hepatic origin with the gallbladder as the predominant factor. It is only during the period of crisis that marked blood destruction occurs, bilirubinemia develops with discoloration of the skin and mucous membranes, gross obstruction exists, and clay-colored stools are in evidence. Gallstones, the formation of which is favored by the inhibition of bile secretion, are found in 60 per cent. of all cases. It may be argued that the removal of the spleen would place us in statu quo, but such is not the case. The condition of the gallbladder remains the same. All factors that interfere with a free flow of bile dispose to cholelithiasis. Infection has been eliminated as a cause in this disease. Aschoff [8] and Bacmeister maintain that one form of gallstone (cholesterol) can be formed in sterile bile if the flow is hindered.

What factor in addition to stagnation favors the formation of calculi in noninfected gallbladders? Is it the spleen? The answer is obvious. The spleen is the "buffer," only, in the process of toxic elimination. It is admitted that exacerbations frequently follow fatigue, indiscretions in diet, excitement or stimuli to the vegetative nervous system. Do these per se directly affect the spleen? Again the answer is negative.

RETICULO-ENDOTHELIAL SYSTEM

The work of Aschoff and Landau on the reticulo-endothelial system has paved the way to a better understanding of many problems of anatomy, hematology, pathology of metabolism, pharmacotherapy, and even tumor formation. A conception of the present state of knowledge concerning this system and its functions necessarily implies a relationship to the disease now under discussion. Metchnikoff avers that the red blood corpuscles can be phagocytosed by the liver cells. This function is attributed to the Kupffer cells of the liver. He brings the Kupffer stellate cells in close relationship with the pulp cells of the spleen because they so frequently phagocytose white and red blood corpuscles. That is to say, there exists a blood destruction system in contrast to a blood production system. The reticulo-endothelial cells of the sinuses of the lymph nodes, the blood sinuses of the spleen, the capillaries of the liver lobules (Kupffer's stellate cells), the capillaries of the bone marrow, the suprarenal cortex, the hypophysis, and the reticulum cells of the splenic pulp, the cortical nodules and pulp cords of the lymph nodes, and ultimately the remainder of the lymphoid apparatus are combined and called the reticulo-endothelial system.

The defense reactions of this system to various toxic-infectious injuries are manifested by cellular proliferations. Again it should be said that the reticulo-endothelial system is as significant for blood destruction as it is for blood production. It is therefore quite possible that an actual paralysis even for a brief space of time admits of lysis of the erythrocytes in the blood itself. Thereafter the reticulo-endothelial system metabolizes the liberated hemoglobin. In such cases it is conceivable that the bilirubin-forming ferments are produced by the reticulo-endothelial cells. If it is admitted that hemoglobin is transformed into bilirubin outside the liver cells, the explanation of stasis icterus is not difficult. The reticulo-endothelial cells ingest not only bile casts but also bile pigments in solution. The absorption of bile pigment in stasis icterus presents a different phase from bile-pigment production in the reticulo-endothelial cells in hemolytic jaundice. Asher regarded the spleen as the principal organ in the metabolism of iron. Schmidts, Lepehne, Nishikawa and others claim a compensatory activity on the part of the hepatic province of the reticulo-endothelial system after the elimination of the splenic area. It has been satisfactorily established by Chevalier, Pearce and Pepper and others that the reticulo-endothelial cells of the liver, bone marrow and lymph nodes participate in the storage and metabolism of iron after splenectomy and other disease conditions. Their investigations have also proved that the hemosiderosis of pernicious anemia is not the same as that in toxic hemolytic jaundice.

8. Aschoff: Edward G. Janeway Lecture, 1924; Lane Lecture, San Francisco, 1924.

The complexity of the various factors involved is well exemplified by the findings in chronic hereditary and familial hemolytic jaundice with splenomegaly and hepatomegaly. In this disease neither the spleen nor the reticulo-endothelial system exhibits a marked increase in iron deposition. The reticulo-endothelial system, however, exerts a defense reaction against elements foreign to normal liver function, and these exciting agents result in the proliferation of the histicocytic elements and a typical transformation of splenic structure. This of necessity involves the hematopoietic system.

EXTRAHEPATIC BILE PASSAGES

Berg, the Swedish surgeon, has made valuable investigations on the anatomy, physiology and pathology of the bile passages. He disregards Naunyn's concept of infectious stone-forming catarrh, and maintains that dysfunction is the main thing and holds the stone formation only an accessory. Out of this is created a condition of simulated gallstone disease, pseudocholelithiasis. In the syndrome of chronic hereditary and familial hemolytic jaundice with splenomegaly and hepatomegaly, this symptom is omnipresent in periods of crisis. Here the sphincter of Oddi plays an important part. The gallbladder is normally the regulator of pressure in the bile-passage system, yet there is a question whether the gallbladder can relieve the load on the bile-passage system by diminishing its tonus. This enables it to hold several times the usual amount of bile, but is a subsidiary function. Hammarsten's experiments on the chemical composition of the hepatic and gallbladder bile show a concentrating power of the wall of the gallbladder; this resorbing function has been experimentally demonstrated by Rous and McMaster, and Haemmerli and Herzfeld.

The work of Westphal on the nervous regulatory system of the extrahepatic bile passages is worthy of consideration. He contends that slight stimulation of the vagus causes contraction of the gallbladder, with relaxation of the entire sphincter of Oddi and increased flow of bile, especially bladder bile. Strong stimulation of the vagus causes still more marked contractions of the gallbladder and similarly partial or total spasm of the sphincter. The consequence is a more difficult flowing out of bile, even bladder bile, which may, as a matter of fact, be forced back. Stimulation of the sympathetic, on the contrary, leads to diminution in tonus of the gallbladder and bile ducts. The sphincter, however, participates only in its antral part in the diminution of tone, while the sphincter proper is contracted. There occurs, therefore, an inhibition of bile flow, naturally also of bladder-bile flow.

Disregarding at this time the theories relative to the mucostasis and cholestasis cause of gallstones, abnormal nervous and muscular irritability of the individual sections of the bile passages should be considered. The so-called false gallstone attacks do not arise on the basis of chronic stasis, but independently as the result of nervous predisposition. Only when the spastic attacks are repeated will the demonstration of stasis gallbladder develop, if at all. Whether the dyskinetic factors are always in the neck, cystic duct region or perhaps in the region of the sphincter of Oddi, they are worthy of especial investigation. A cramp of the sphincter could cause the picture of stasis bladder by increasing the pressure in the entire system after stimulation of the vagus. This has been observed by Westphal in animals.

Aschoff has aptly stated that the older and newer lessons on the peculiar structure of the extrahepatic bile-passage system, the varying distribution of the musculature, the great significance of the sphincter of Oddi, the sphincter-like thickening of the smooth muscle at the beginning of the cystic duct, the inclusion of a nervous apparatus in the wall of the cystic duct apparently serving as a regulatory center—all these things throw new light on the clinical pathology of the gallbladder, with and without stone formation.

In this rather comprehensive discussion of chronic hereditary and familial hemolytic jaundice with splenomegaly and hepatomegaly, I have presented certain facts in view of the clinical evidence pertinent to the cases under study. Supportive postulates relative to the reticulo-endothelial system and its significance for blood destruction and for blood production, its functional relationship to the splenic and hepatic area, and its complexity as to various factors involved have been submitted. A brief summary of our present conception of the bile passages has been found necessary, for it is here that dysfunction is of primal importance.

In the production of crises, diet, bodily activity, excitement, or stimuli to the vegetative nervous system play an important rôle by their influence on the neuromuscular reflex apparatus of the bile passages. A total spasm involving the region of the sphincter of Oddi, contractions of the gallbladder, which force bladder bile back to the columns of the liver cells producing a toxic irritative process or defense reaction, evolve a condition we know as chronic hereditary and familial hemolytic jaundice with splenomegaly and hepatomegaly.

TREATMENT

The treatment of this disease should not be confused with that of splenomegalic jaundice, hemolytic icterus, or congenital hemolytic jaundice. These conditions are similar to the disease under discussion, but, strictly speaking, pathologically different. In many cases the course is so mild as not to demand treatment; the severe cases may continue many years before the exacerbations compel the patient to seek medical advice. The predisposing causes of the crises should be taken under consideration. Proper diet, regulated exercise, fresh air and sunlight, freedom from excitement and sudden changes of temperature, and prevention of infections are essential prophylactic measures. Iron, arsenic and nuclein plus heliotherapy were useful therapeutic agents in three cases under study. Improvement has been marked during the five months of treatment. The spleen and liver have been reduced in size, the blood picture improved, the crises ameliorated and the intervals extended. Complications may necessitate surgical intervention. In one of my cases, splenectomy was followed by marked benefit; and another patient has made an almost complete recovery following cholecystectomy. What procedure should we recommend? This will be determined by future investigation.

SUMMARY

1. The cases of chronic hereditary and familial hemolytic jaundice with splenomegaly and hepatomegaly under study differ from the usual forms of hemolytic jaundice.

2. They differ in the very decided functional activity of the liver and its relation to the reticulo-endothelial system.

3. During the periods of crises, the concomitants of ordinary obstructive jaundice, such as clay-colored stools, choluria, mild pruritus and slight icterus, are present.

4. The blood picture is markedly characteristic, but at times exaggerated. This makes the diagnosis comparatively easy.

5. An intimate study of these cases appears to implicate the extrahepatic bile passages and the reticuloendothelial system.

6. In the production of crises, the neuromuscular reflex apparatus of the bile passages plays an important rôle. A total spasm of the region of the sphincter of Oddi with contractions of the gallbladder, which force bladder bile back to the columns of the liver cells, produces a toxic irritative process or defense reaction.

THE TREATMENT OF BRONCHIAL ASTHMA *

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The treatment of bronchial asthma discussed in this article depends largely on the work of I. C. Walker and R. V. Cooke. To Walker, especially, belongs the credit of demonstrating, from 1917 to 1920, through thirty articles, that protein sensitization is the cause of most bronchial asthma and of outlining a workable method of diagnosis and treatment. To Cooke belongs the credit of demonstrating the importance of inhalants in the etiology of bronchial asthma.

This paper is based on 234 cases of bronchial asthma in which the patients have cooperated satisfactorily in their treatment during the years 1923 and 1924. No cases are reported in which the patients have not cooperated and have not been under observation for a minimum of four months. In cases treated before 1923 the results were not as good as those reported here because of our lack of knowledge of many of the causes of asthma and our lack of appreciation of the importance of routine testing and retesting.

HISTORY

A detailed history has been recorded. The occurrence of allergy in antecedents has been carefully noted, 56.4 per cent. of our series showing a positive family history. The occurrence of frequent head colds or bronchitis, hay-fever, urticaria, eczema, angioneurotic edema, unusual digestive disturbances, itching or redness of the eyes, sneezing or coryza, and itching of the pharynx has been recorded in Table 1.

The history is extremely important since it often gives suggestions of the type of asthma present. Food, pollen or animal emanation cases at times give negative reactions, but the history warrants treatment based on a specific cause. In food cases the patients usually have a distaste for or indigestion from definite foods, and may have, as Duke has emphasized, severe abdominal pain. There is often a past or present history of eczema or urticaria. Angioneurotic edema occurred only twice in our series of 234 asthmatic patients. In pollen cases there is usually the history of seasonal attacks, with itching or running of the eyes or nose and often a history of hay-fever. Such asthma is frequently worse in the early morning, when pollination begins. In animal emanation cases the patients often associate nasal irritation or asthma with animal contacts, certain rooms, feather beds or definite mattresses or pillows. Many are disturbed by house dust that contains much emanation from animal materials, as well as orris root, pyrethrum and other organic substances. Orris root subjects frequently have perennial sneezing and nasal occlusion when exposed to face powders, cosmetics or tooth pastes containing this substance.

The history also should record any reaction to the dust of the occupational environment. Susceptibility to acquiring sensitization by the human being to substances encountered in an occupation has recently been emphasized by Rackemann.

PHYSICAL EXAMINATION

A careful physical examination has been made. Roentgenograms of suspicious sinuses and teeth, and other laboratory tests indicated have been taken. Certain supposed asthmatic subjects have been found to have cardiac decompensation, aneurysm of the aorta or pulmonary tuberculosis, as well as other diseases.

SKIN TESTING

Great care and patience have been used in skin testing. We have used the cutaneous method of Walker, feeling that it is safer, more expeditious and capable of giving as much information, if carefully executed, as is the intradermal. Since treatment of asthma depends on specific diagnosis and treatment, we feel that the use of group proteins is not advisable. In making the cutaneous test, it is important that the cuts penetrate the skin but do not draw blood. We have recorded as positive reactions those with irregular wheals larger than 4 mm., provided the control test was not elevated. With Shannon, I also feel that any definite erythema with or without an urticarial wheal is evidence of protein sensitization. It is important to record all delayed reactions in twenty-four hours, since treatment based on such delayed reactions alone has frequently resulted in complete control of the asthma. The necessity of recognizing the value of slight or delayed reactions is emphasized by the known absence of positive reactions in many cases of allergy to foods and other proteins. During the last two years, routine tests with all common food, animal emanation and pollen proteins, with a few miscellaneous substances, such as orris root, glue, pyrethrum and silk, usually numbering more than a hundred, have been done on each

TABLE 1.—*Occurrence of Positive Family History and Allergic Manifestations in Two Hundred and Thirty-Four Cases of Bronchial Asthma*

	77 Cases, 0–10 Years	33 Cases, 10–20 Years	85 Cases, 20–50 Years	49 Cases, 50–80 Years	Total in Series of 234 Cases	Per Cent. in Series
Male	47	26	33	31	137	58.5
Female	30	7	52	18	107	45.7
Bilateral family history	15	6	2	1	24	10.2
Unilateral family history	45	12	37	14	108	46.1
Total family history	60 (78%)	18 (54%)	39 (45.4%)	15 (30.6%)	132	56.4
Frequent head colds	32	14	38	10	94	40.2
Frequent bronchitis	24	14	17	5	60	21.3
Allergic coryza	10	4	28	7	49	21
Allergic indigestion	12	5	9	2	28	12
Urticaria	29	5	12	2	48	20.5
Eczema	30	6	12	2	50	21.3
Angioneurotic edema	0	1	0	1	2	00.9
Ocular itching and redness	20	3	34	7	64	27.3
Sneezing and coryza	49	26	60	21	156	66.6
Pharyngeal itching	3	5	8	4	20	8.5

* Read before the Section on Practice of Medicine at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

patient. My records show that more than two thirds of the series of 234 asthmatic patients showed multiple sensitization to more than one of the general classes of proteins, and usually patients gave positive reactions to several proteins in each class.

It is extremely important to retest patients completely, if no reactions are obtained that explain the asthma. Schloss has shown that in infants sensitive to egg, desensitization occurs after allergic attacks. Such periods when the skin is unable to give reactions occur frequently after an attack of asthma. The best time to test is just before or at the beginning of an attack. Variations in skin reactions occur in pollen as well as in animal emanation and food cases. The large percentage of positive reactions that are reported in this series depends in part on the fact that many of the asthmatic patients have been retested three or four times.

TABLE 2.—*Occurrence of Skin Reactions to the Most Common Proteins Used in Testing Two Hundred and Thirty-Four Patients with Asthma* *

Food Proteins	Reactions in 234 Cases	Per Cent. of Reactions	Inhalant Proteins	Reactions in 234 Cases	Per Cent. of Reactions
Wheat	39	16.6	Feathers	37	16
Corn	6	2.6	Horse	33	14
Oats	6	2.6	Cat	21	9
Rice	10	4.3	Rabbit	17	7.3
Egg	28	12	Sheep	11	4.7
Milk	13	5.5	Silk	6	2.6
Fish	18	7.7	Total animal...	137	58.5
Nuts	11	4.7	Orris root.....	23	10
Meats	14	6	Tree pollens...	20	9.4
Fruits	28	12	Spring pollens..	87	37.2
Vegetables	57	24	Fall pollens....	66	28.2
Total food.....	95	40.6	Total pollens...	90	39.7

* Results for many miscellaneous proteins are not given. Though results are reported in groups for comparison, no "group proteins" have been used in testing.

The percentages of positive reactions to the most common classes of proteins and to a few individual proteins in the series of 234 asthmatic patients are recorded in Table 2. No delayed reactions are included. We do not feel that all the reactions obtained can be held responsible for the asthmatic attacks. Many reactions were undoubtedly at the basis of urticaria, eczema or hay-fever, of which patients complained. However, it is felt that nearly all proteins used in our work (more than 400 in all) may cause asthma, and that reactions indicate potential danger, if not the fundamental cause. After checking the positive reactions with history and clinical testing, I agree, in general, with Vander Veer, who feels that about 50 per cent. of the reactions he obtains to foods, and from 90 to 100 per cent. of those obtained to animal emanations, are of etiologic significance in the asthma.

Contrary to the opinion in most literature, several definite skin reactions have been obtained in patients whose asthma began after the age of 50. Of twenty-three such patients, ten gave positive reactions, six delayed reactions, which were held in suspicion, and seven no reactions. No definite reactions were obtained to any cereals, milk or eggs, but two patients reacted to orris root, five to animal emanation proteins and six to pollens. One patient reacted both to horse dander and to several pollens. I agree with Cooke and Kern, who feel that many who develop asthma after the age of 50 have a fundamental protein sensitization, the existence of which is difficult to demonstrate by skin testing. This is probably due to the inactive condition of the skin in old age. As I test these patients more completely and interpret the tests more carefully, many of the so-called nonsensitive cases will probably prove to be allergic, especially to substances found in house dust.

Thus, 91 per cent. of my patients gave one or more positive skin reactions, as contrasted with 48 per cent. reported by Walker in 1920, and 85 per cent. reported by Cooke in 1922. I feel that this high percentage of positive reactions is due to the use of a large number of food, animal emanation and pollen proteins, to the use of orris root in routine testing, and to the use of many miscellaneous proteins in the unusual case. Retesting on several occasions when the asthma remained uncontrolled has revealed many reactions that would have been missed. In this series, no positive reactions to bacteria have been recorded. With improvement in methods of preparation of proteins and further discoveries of allergic causes of asthma, more positive reactions will probably be obtained.

TREATMENT

The results of the treatment of the series of 234 cases of asthma arranged in age groups are given in Table 3.

Of the 234 patients, 63.4 per cent. had complete or nearly complete relief, 26.9 per cent. had marked relief, 5.5 per cent. had slight relief and 4.2 per cent. had no relief, the patient himself or some member of the family being in each instance the judge of the result obtained. Results were satisfactory in approximately 90.3 per cent. This compares with the favorable results reported by Cooke in approximately 90 per cent. of his cases.

The treatment of the patients has been guided by the skin reactions. Since multiple sensitization occurs in nearly every case, the treatment is usually complex and necessitates the most careful supervision and education of the patient.

FOOD ASTHMA

For the control of food sensitization, total exclusion of the offending substance is necessary. Wheat, in my experience, most frequently gives important food reactions. Many delayed reactions to wheat have also revealed a true sensitization. Eggs, milk and the cereals other than wheat follow in order of importance. Though many reactions to vegetables, fruit and fish proteins have been obtained, clinically they are of minor importance in the production of asthma. Unger has recently advocated hypodermic desensitization to common foods. Desensitization by feeding of food proteins has been unsatisfactory in my hands. That children frequently outgrow food sensitization is shown by the large number of food cases in youth as compared with adult life. However, much food allergy of more than thirty years' duration has come to my notice. With a history of distaste for or sensitization to a food to which negative

TABLE 3.—*Results of Treatment in Two Hundred and Thirty-Four Cases of Bronchial Asthma*

Age Groups	77 Cases, 0–10 Years	33 Cases, 10–20 Years	85 Cases, 20–50 Years	39 Cases, 50–80 Years	Total Results	Per Cent. of Cases
Complete or nearly complete relief.	56	21	50	21	148	63.4
Marked relief....	16	9	25	13	63	26.9
Slight relief.....	5	0	5	3	13	5.5
No relief.....	0	3	5	2	10	4.2

tests are obtained, that food has been excluded from the diet to determine its rôle in the etiology.

POLLEN ASTHMA

Pollen reactions have occurred in 39.7 per cent. of the cases, and nearly all have required pollen desensitization. More than 175 pollens gathered from all parts of California are available in the testing. In our state, pollen is in the air nearly continuously throughout the year. Pollen sensitization in many perennial asthmatic patients is discovered only by routine pollen testing and retesting. As in all types of allergy, new pollen sensitizations arise. Pollen treatment, as Bernton has shown, must be specific. Thus, I have found that desensitization to *Poa pratensis* will not protect against *Poa annua*. Piness has reported poor success in protecting against other grasses by the use of timothy alone. I have extracted my own pollens by the glycerin salt method described by Clock. Antigens prepared two years ago are still stable. To select the correct antigen for each patient, ability to make a botanic survey of the patient's neighborhood is necessary.

ANIMAL EMANATION ASTHMA

Positive reactions to one or more animal emanation proteins have occurred in 58.5 per cent. of the cases. To obtain results in such cases, it is most important to exclude from the patient's environment all emanations to which he is sensitive. The eradication of such substances from the patient's house must be complete and thorough.

Feather proteins have reacted in 16 per cent. of the cases. These proteins have also given many delayed reactions, and successful treatment based on these reactions has often corroborated the indicated sensitization. Asthmatic subjects who are very susceptible to animal emanations, especially of the horse, often require desensitization. This treatment must be given with great care, as outlined by Walker, so that no exaggeration of asthma results.

HOUSE DUST ASTHMA

We owe the recognition of the importance of house dust in the etiology of bronchial asthma to Cooke. He has shown that patients who have asthma from house dust may fail to give positive skin reactions to any animal or organic proteins. By retesting such patients, however, I have found many definite reactions, especially to animal emanation proteins. Though testing with dust solutions has not been routine in this series, several positive reactions to such extracts have been obtained when no reactions to other proteins occurred, and desensitization with such dust solutions has been carried out. Though wool reactions are infrequent, carpets and other woolen articles should be held in suspicion in the unexplained dust case. Kern, in an article on dust sensitization, has emphasized the necessity of absolute removal from his entire living environment of all organic substances to which the asthmatic subject is sensitive.

Orris root gave positive reactions in 10 per cent. of the cases. Modern social life brings so much exposure to orris root that desensitization at times is necessary. Occasional reactions to kapok were observed, though assurance that asthma may be caused by kapok is not definite in my mind.

BACTERIAL ASTHMA AND VACCINE THERAPY

Zinsser, working with guinea-pigs, has produced anaphylaxis to bacterial proteins. Clinically, I also feel that bacterial allergy exists, since asthma is frequently exaggerated with too large doses of autogenous vaccine, and, on one occasion, a typical anaphylactic seizure occurred in a patient about half an hour after his first injection.

The percentage of cases of bronchial asthma due solely to bacterial sensitization is probably quite small. Of the eleven cases in the entire series that gave no positive or delayed reactions, and in whose treatment autogenous vaccine alone was used, nine gave satisfactory results.

Vaccine therapy has been used, however, in about 75 per cent. of all cases in which specific treatment based on positive reactions to other proteins was used and bronchitis was present. Though sensitization to bacteria causing such infection may have been present, our impression is that immunization explains the good results obtained from such vaccine therapy. Many observers feel that inflamed respiratory mucous membranes act as a portal of entry to inhalation proteins to which the body cells become sensitized. Koessler thinks that certain bronchospastic substances are absorbed from the infection of mucous membranes. However, in view of possible bacterial allergy, I have always begun treatment with a small dose of 5 or 10 million bacteria. Increase in the vaccine has been guided by the local subcutaneous reaction. I agree with Thomas and Touart that treatment rarely requires doses larger than 500 million.

OPERATIVE TREATMENT FOR ASTHMA

In this series, 169 operations had been performed on 110 of my patients, with only slight relief of the asthma in a few cases. I agree with Walker that no surgery should be done on asthmatic patients until their protein sensitization has been thoroughly studied and is controlled. Then surgery is indicated for removal of infections detrimental to the general health. Surgery done with the idea of curing asthma is unsuccessful and wasteful of the patient's time and money.

CLIMATIC TREATMENT

Knowing that allergy is the cause of bronchial asthma, physicians must desist from advising patients to change climate without most careful allergic studies. Such advice often pauperizes families. Asthma should be controlled in any climate by intelligent, painstaking diagnosis and treatment. My experience is that uncontrolled cases are rarely helped by climatic changes.

GENERAL MEDICAL TREATMENT

Epinephrin should be used to control spasmodic attacks, but it is often useless in severe cases. Two or three grain doses of chloral hydrate combined with four or five minimum doses of tincture of hyoscyamus has helped to tide over the patients while the diagnosis is being made and treatment instituted. Iodids in large doses give many asthmatic patients some relief. The burning of niter and stramonium leaves is indicated when it gives relief. Quartz light with vaccine therapy has been found very valuable when bronchitis complicates asthma. Morphin should rarely, if ever, be used even in the most severe attacks, because of its demoralizing effect on the patient. Calcium chlorid and peptone intravenously have been of no value in the control of our cases of severe asthma.

CONCLUSION

One or more protein sensitization skin tests have been found positive in 91 per cent. of 234 cases of asthma.

Treatment of asthma based on such reactions usually gives satisfactory results, if full cooperation of the patient is obtained. Sensitization is usually multiple. Inhalants, including animal emanation substances, orris root, pollens and dusts, are the most frequent causes of asthma. Wheat, eggs, milk and cereals other than wheat are in order of sequence the most common foods to cause asthma, though any food may be responsible. Asthma due to bacterial allergy alone is rare, in my experience. Vaccine therapy is of value in bronchitis secondary to asthma caused by other protein sensitization. Operations on the nose and throat rarely cure asthma and should be done only after a thorough protein sensitization study. A change of climate to control asthma is unnecessary and not economical. Complete or marked relief has been obtained in approximately 90 per cent. of the 234 cases of asthma.

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ABSTRACT OF DISCUSSION

DR. I. S. KAHN, San Antonio, Texas: In San Antonio, a health resort favored by patients who have had chronic asthma for years, the etiologic factors in 95 per cent. of these cases are the same. I shall limit myself to the discussion of this type of case, assuming that animal emanations, feathers, etc., have been taken care of. In treating these cases, one must be familiar with the pollen of the community and also of the patient's home locality, in order to make a correct diagnosis as to cause. A daily air analysis by pollen plates on a microscopic slide covered with glycerin will show the differentiation of the pollen granules. In my work, the pollen of the grasses is the most common offender, and accounts for about 85 per cent. of hay-fever cases. There may be coincident irritation by hair, feathers, etc. We shall avoid many errors if we bear in mind that there is a pollen asthma with negative skin tests. I have devised an environmental method which is given independently of the skin test. I have never yet seen a new asthma patient who has not been encouraged to stay outdoors and live outdoors, which is obviously what should be done, if the patient were not thereby getting a maximal dosage of pollen. I place these patients in down town hotels. I close the windows and keep the patients indoors, giving, at the same time, a small dose of epinephrin. The first thing they want to do is to take walks and automobile rides, and they promptly succumb to hay-fever. When they keep indoors, the case clears up. I have them tested with the pollens known to be in the air at that time. These tests having failed before by dermal testing, I administer a dose hypodermically every day or every other day. At a certain point local indurations on the arm will occur. If the tests are pushed further, a mild asthma or hay-fever results. The case is then cleared as before in a closed room, and desensitization can be done in the usual manner. Results should be secured in the same percentage as desensitization of pollen. The good results run up to 75 per cent. How does that affect cases from the North? I do not know of the air-borne pollen there outside of the fall asters. I do not know of any work that has been done on them. In the districts of Chicago and Kansas City are grass pollens. One would think that cold would kill off these pollens, but in my air analysis this winter at 13 F. the air was heavily laden with grass pollen after a heavy frost. I know that the ragweed pollen disappears from the air, but I do not know what temperature is required to kill off the grass pollens. Half of these cases originate in the North and clear up under attention to details of treatment.

DR. RAY M. BALLYEAT, Oklahoma City: In regard to the state of Oklahoma, my experience has been the same as that of Dr. Rowe, with one exception. I have not been able to get the same percentage of good results that he has obtained. We believe we can get good results in 75 per cent. of the cases in which we can get the patient's cooperation. Dr. Rowe has had the same experience as a great many other workers; namely, that in the case of a great many persons we are unable to find the protein to which they are sensitive. In treating them with some nonspecific protein we do not get relief, but if we are able to find the protein to which they are sensitive, we get results. In the treatment of asthma or hay-fever the work must be very specific. We cannot, for instance, use orchard grass pollen in desensitizing to Bermuda grass, which is a very common offender, and we cannot use one amaranth. There are two classes of desensitization tests. One school uses the skin test and the other believes in the intradermal test. I have tried both methods and I have gone back to the skin test outlined by Walker. We do not always get positive skin tests, but if they are repeated may times they will become positive. Following an attack of asthma, the patients are not sensitive and the skin tests do not show results. With patience one can find the offending protein to which an asthmatic patient is sensitive in from 80 to 90 per cent. of the cases. The intradermal test is very trying to the nervous system of the man who does the testing. The shock is worse to him than to the person who gets the anaphylaxis. One cannot make too thorough an examination of the surroundings of these patients. We must go into the homes and find out what is on the floor of the house; we must find out what is in the cellar; we must find out what is on the lawn. In many cases mice will keep up hay-fever or asthma. In the Western states, a certain number of persons have asthma in some community. In one place, we found that the prairie dogs were coming in at that season and the air was full of animal dander. Many people became sensitized to the prairie dogs. So far as operating is concerned, the work should be done only by a very skilful operator, and then not until the case has been studied very thoroughly from a laryngologic point of view and standard treatment instituted.

DR. GEORGE PINESS, Los Angeles: The percentage of reactions obtained by Dr. Rowe is higher than the average man can obtain. The interpretation of the reactions must be accounted for in a considerable percentage of reactions. A great many reactions are considered positive that are really questionable. The character of the skin and the type of reaction must be taken into consideration. I feel that no reaction is positive unless it has pseudopods. Persons who have erythema about the site of the scratch naturally have a red area and will have that type of reaction. Children will react in the usual manner, no matter at what age. It is wiser to retest. I believe I taught Dr. Rowe how to retest. The etiologic factor can be found by that procedure. Dr. Rowe has reported 234 cases, but when the numbers run up into the thousands the percentages may be lower. He may also have seen young persons, who should be more sensitive. Persons of middle age often give negative reactions, but provided the reaction is not due to bacterial infection, it must be due to some protein that we have not at hand. Dr. Rowe mentioned no asthma occurring past the age of 50. I think that the mechanism that occurs is that the individual is primarily of an allergic constitution. He cannot tolerate the proteins, and breaks them down into split proteins. Thus, when he has influenza or pneumonia, the threshold of tolerance is broken down, and then he acquires a sensitization which may be due to foreign protein. The house dust test is important. It should be done as a routine. I do not believe that stock dust counts for much. It is only the specific dust from the areas in and around the patient's house that is important. The methods of testing arouse argument at every meeting. The intracutaneous test should not be used by the average man, and even in the hands of a specialist like Dr. Cooke, it is sometimes dangerous. He reported one death from this cause. I have never seen a death from the cutaneous test. If the patient has a sensitization test given by the scratch method, there is very little danger to the patient.

DR. W. W. DUKE, Kansas City, Mo.: Dr. Rowe's results seem surprising to me. He has relieved considerably more patients than I have. He has also had a large number of positive diagnoses. There is a difference in the type of patients. His patients average 20 years; mine average 30 years. His patients can be treated along material lines. My

patients are mostly adults past middle life. It was Walker's opinion that patients who get asthma after 40 are not sensitive to material agents. I have studied physical agents. I began to study asthmatic patients with negative tests for material things, and then I studied them for sensitiveness to heat and cold. Many cases that develop in later life present sensitiveness to heat and react in winter, and those sensitive to cold react in summer. It is the change from heat to cold that affects the patient. Rise of temperature causes an attack of asthma. I have had patients get a reaction by mental exercise or by warm water. Most asthma occurring with emotional excitement is due to heat sensitiveness. A reaction of that sort can be stopped by cold. The cold-sensitive patient has a normal or slightly above normal temperature and reacts to cold. The temperature is highest in summer. They give seasonal histories to perfection. These are very difficult cases to diagnose. The patients react to a breath of cold air. One can test these cases in the office. The reaction can be demonstrated while the patient is breathing warm air, with the body exposed to cold air. Dr. Rowe did not give much credence to bacterial allergy. It may be very rare. It does not occur often. Patients are apt to gain tolerance and cease reacting to the bacteria. I have not seen a single case of chronic asthma due to bacterial allergy.

DR. R. H. SPANGLER, Philadelphia: I should like to call attention to recent reports on the clinical results of treatment of allergic asthma with various protein agents that have produced nonspecific rather than specific desensitization. Nonspecific protein therapy has become a recognized factor in immunity. There is a great need, however, for scientific study, for regulating the strength of dosage of nonspecific agents. Since 1912, I have been making differential leukocyte counts with reference to the degree of eosinophilia produced by foreign protein injections. Textbooks have recorded the fact that in asthma there is a local collection of eosinophilia in the lungs and sputum. Repeated differential counts will bring out the fact that, before and during an active paroxysm of asthma, eosinophils will be present. I believe it is an indication of sensitization, or an anaphylactic phenomenon. The asthmatic substance has a positive chemotaxis for eosinophilic cells, whether it is protein or pollen substance. Eosinophilia is an anaphylactic phenomenon. This has been pointed out by many observers. Therefore, I would suggest that in studying asthma cases the percentage of eosinophils during the height of the paroxysm or following it may be used as an index for determining the sensitivity of the patient. The eosinophilic index can be used as a guide to strength of dose and frequency of administration.

DR. A. I. RUBENSTONE, Philadelphia: It is generally agreed today that protein sensitization, including pollen and bacterial, is the cause of asthma. The means of testing are fairly standardized by the work of Walker and Cooke. But in persons highly sensitive to proteins, bronchial asthma does not always develop. Persons develop bronchial asthma only when a secondary factor is introduced. That is largely infective in character. Persons sensitive to protein who are secondarily infected through the upper respiratory tract develop the syndrome of bronchial asthma. The modus operandi is to ascertain to what proteins the patient is sensitive. The mode of testing bacterial proteins gives indifferent results. They are tested by stock proteins. If the streptococcus affects John Jones, it becomes a specific serologic factor for John Jones. That does not prove that it is the bacterial invader which affects other persons. In the treatment of bronchial asthma aside from the proteins to which the patient is sensitive, bacterial vaccines are an important element of treatment. But cultures from the upper respiratory tract often show few or none of the etiologic agents on the culture medium. The results I have obtained in the past can be charged to a different technic of preparing vaccines. With streptococcus and staphylococcus the results were good, but with *M. catarrhalis*, the pneumococcus or leptothrix the results were poor. In order to get successful cultures of the selective pathogen, we must use animal passage.

DR. SOLOMON SOLIS-COHEN, Philadelphia: With reference to surgery in sensitized persons, secondary infections figure largely in bringing about the outbreak which brings on the syndrome. We have found at the Mount Sinai Hospital that the vaccines of bacterial organisms depend for result on how largely one drains the foci. We first examine the patient to ascertain where the abnormal secretions are located. When we have found this, vaccine therapy has been effective. We are very desirous of having everybody feel that sensitization is a great factor in the causation of bronchial asthma. Dr. Rowe showed that colds and coryza are of frequent occurrence in half the cases. Whether one gets these findings or not, puncture of the antrum has yielded excellent results in sensitized cases. We should remove the secondary factor, namely, infection, and then treat the patient for the protein sensitization.

DR. GEORGE N. JACK, Buffalo: Through the efforts of Dr. Rowe, I am organizing a little society for the study of asthma. We are beginning to understand asthma. I believe it can be prevented. We can educate the patient to live without asthma. It is due to an instability of the blood. The blood disintegrates, and this produces toxins that make the patient sensitive to all kinds of foods. When the blood is in equilibrium, the patient is not sensitized to foods any more than a normal person is. The most frequent disintegrating factors are weather conditions. I teach my asthmatic patients that the blood is sensitized for life to certain phenomena, and that they must guard themselves against such happenings.

DR. GERALD B. WEBB, Colorado Springs, Colo.: We had a death from asthma, and the necropsy showed eosinophilia. The cells were packed in the lymph nodes. Aschoff said it was an extraordinary circumstance. He had come across only one similar case.

DR. A. H. ROWE, Oakland, Calif.: The discussion has emphasized the point I wanted to bring out; namely, the importance of the history in the detection of the pollen when the skin reactions are not obtained. I do not know enough about physical allergy to discuss it. Dr. Spangler brought up the question of nonspecific protein therapy. When peptone was suggested as an agent to control these cases, I gave it a thorough trial, and I convinced myself that results were not obtained until the specific protein which caused the sensitization had been discovered. I feel also that a note of warning is to be sounded as to the use of peptone as a nonspecific agent, as well as vaccines in specific protein therapy. The question of surgery was mentioned in my paper, but I did not have time to cover it. I think that protein sensitization is often responsible for asthma; but when one finds pus in the antrums it must be removed, and when lymphatic drainage is not good it must be instituted. I do not feel that control of the infection in a sinus is going to be good if there is a fundamental protein sensitization, which exists so often in asthma. In regard to the figures of results reported, I was conservative in my statement of results. The cases have been studied with the utmost care. The tests were done with due consideration as to the liberality of interpretation.

Cinchona Alkaloids and Malaria.—If the alleviative campaign against malaria is to be continued and extended on a scale commensurate with the far spread array of the enemy forces, two things seem desirable: a much greater supply of therapeutic munitions at a much cheaper rate than is at present available, and a great development of arrangements for placing those munitions within easy reach of the attacked. Although, from the cultural and commercial point of view, there is unlikely to be any objection to the use of any of the other separated alkaloids, so long as the extent of their use does not trespass the limits indicated, from the same standpoint the position of quinin, as the fittest of all the separated alkaloids, seems unassailable. There is no reason, however, why the use of quinin should not be supplemented, but rather very good reason, at present, why it should. In view of the extensive field, this could be done most easily, most cheaply and most abundantly by reverting to the cultivation of *Calisaya succirubra* and the extraction of its total alkaloids to form again the original cinchona febrifuge. *C. succirubra* is a robust species, yielding considerably more bark than the other species and with a reasonably high average percentage of total alkaloids.—Gage, A. T.: *Tr. Roy. Soc. Trop. Med. & Hyg.* **18**:351 (Jan. 15) 1925.

TETANY AS A CAUSE OF CONVULSIONS IN VERY YOUNG INFANTS *

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This case is reported because of the extremely important lesson in diagnosis which it teachers.

History.—A. Y., a boy, was born Feb. 12, 1924, at term; labor was said to have been rather difficult and prolonged; forceps were applied, but their use was not necessary; the presentation was said to be face; a slight facial paralysis on the left side was thought to be present for a short time after birth. No cyanosis was present at any time. The birth weight was 6 pounds, 10 ounces (3 kg.). The family history was irrelevant. The child was breast fed exclusively for first two weeks; he was given breast feedings, supplemented with skimmed milk and sugar mixtures for the succeeding one and one-half weeks; because of "green, lumpy and undigested stools," he was weaned at the age of 3½ weeks. The feedings thereafter were ordinary modifications of whole milk with water and sugar. The infant gained slowly, but there were no gastro-intestinal disturbances. At the age of 5 weeks, the patient weighed 7 pounds, 13 ounces (3.5 kg.).

The baby was taken ill, March 19, when he was 5 weeks of age. The 7 a. m. feeding was taken relunctantly. The 10 a. m. feeding was taken, but about ten minutes later, the nurse noted twitchings of the right side of the body; these lasted for several minutes. At 11 a. m., the patient had a severe convulsion during which his body became rigid, and later there were clonic movements principally on the right side (arm, leg and eye). The convulsive state lasted for twenty minutes and was followed during the course of the day by sixteen similar seizures. The right side was usually involved, but there were three successive attacks in which only the left side was involved. The patient was given enemas and cathartic and sedative drugs.

On the day following the first series of convulsions, the patient seemed in good health and continued so for six days; i. e., until March 25. On this day, the patient had another series of convulsions, fourteen in all. These convulsions, like those of the first series, predominantly involved the right side. Chloral hydrate was administered by rectum and mouth.

Following these convulsions, the patient again seemed well until the night of March 31, when the third series of convulsions began. On the following day, just two weeks after the onset of the present illness, at the age of 7 weeks, the patient was admitted to the New Haven Hospital.

Examination.—The patient was poorly nourished. He was in a convulsive state of moderate severity. There were mild clonic movements first on one side and then on the other, seldom on the two simultaneously. Many of the movements were scarcely more than twitchings; at times, there were such evidences of motor disturbances as clenching of a hand, pedal spasm and blinking. In the more severe seizures, the eyes were usually turned upward and to the left, and there were nystagmoid movements. At times, there was marked opisthotonos and extreme spasticity of the entire body.

The head was symmetrical; both fontanels were open and not bulging. There was no craniotabes. The veins of the scalp seemed unusually prominent. There was a slight serous nasal discharge. Both knee kicks were very active, and the left was more active than the right; there was a sustained ankle clonus on the left. Kernig's sign was not present. The examinations of the eye grounds, ears, throat, chest and abdomen were entirely negative. The patient had no fever. The urine was normal. There were no evidences of an infection of any kind.

Course.—The patient remained in the hospital nine days. The convulsive state lasted with diminishing severity for the first forty-eight hours. Sedatives in the form of sodium bromid, chloral hydrate and phenobarbital (luminal) were administered as required during this period. Chvostek's sign was never present.

The general impression of the case was that the patient probably had a cerebral hemorrhage at birth. Certain laboratory data were requested as a matter of principle. Reports of these are as follows: urine, normal; spinal fluid, normal; Wassermann reactions of the blood and spinal fluid of the patient and of the blood of his parents, negative; electrical reactions (in milliamperes): cathodal closing contraction, 2; anodal closing contraction, 3; anodal opening contraction, 2.5; cathodal opening contraction, >5.

The total calcium in the blood serum was 5.93 mg. per hundred cubic centimeters, and the inorganic phosphorus 8.85 mg. per hundred cubic centimeters.

The diagnosis of infantile tetany was thus established, and calcium chlorid by mouth was administered to the patient on the third day in the hospital. The convulsive movements had entirely ceased at that time, and the child seemed in good health. For two days, the patient was given 60 grains (4 gm.) of calcium chlorid daily in divided doses and then 40 grains (2.6 gm.).

The patient was discharged, April 9, in a satisfactory condition. The feeding was to be modified whole milk; the child was to receive in addition cod liver oil and orange juice. Calcium chlorid was to be given in gradually diminishing doses with the idea that if tetany were the cause of the convulsions, they would recur when the drug was not given. The baby was to be placed in direct sunlight as much as possible.

April 14, five days after discharge, at the age of 9 weeks, the patient had a slight convulsion and was readmitted. His dose of calcium chlorid had been reduced to 10 grains (0.65 gm.) daily.

During the admission examination, the baby had a generalized convulsion of moderate severity. There was no laryngismus stridulus, no carpopedal spasm. After the convulsion, the baby appeared to be in good condition; the fontanel seemed somewhat tense and the scalp veins rather prominent. Chvostek's sign was never present. There was perhaps slight general spasticity; the reflexes were active, and ankle clonus was sustained for four or five kicks. There was no fever or other evidence of infection. The electrical reactions were: cathodal closing contraction, 0.5; anodal closing contraction, 2; anodal opening contraction, 1; cathodal opening contraction, 2.75.

The total calcium in the blood serum was 5.3 mg. per hundred cubic centimeters, and the inorganic phosphorus, 10.8 mg.

Roentgenograms of the extremities showed no evidences of rickets.

The child was discharged on the second day. He was to receive 60 grains (4 gm.) of calcium chlorid the first day at home, and the dose was to be diminished by 10 grains (0.65 gm.) daily until a dosage of 30 grains (2 gm.) daily was reached. Here the dosage was to remain for ten days. Calcium chlorid was then to be discontinued.

The patient has remained well since discharge; he has thriven and been free from convulsions (March, 1925).

COMMENT

When the patient was presented for diagnosis, a number of possibilities were suggested and considered. Many of these were eliminated or regarded as highly improbable on general clinical grounds. Of this number, infantile tetany was one. However, this was the correct diagnosis; it was strongly suggested by the electrical reactions and definitely established by the finding of a blood calcium concentration of 5.93 mg. per hundred cubic centimeters of serum. The highly favorable response to treatment with calcium chlorid, cod liver oil and direct sunlight would offer confirmation of the diagnosis, if any were required.

Several points in the history and symptomatology presented by the patient were in evidence against a diagnosis of infantile tetany; in fact, until the electrical reactions were determined, there were no points actually in favor of that diagnosis.

The history of a prolonged, difficult labor with face presentation, whether a statement of actual fact or not, was highly suggestive of a birth hemorrhage as the cause of the convulsions. Then, again, the convulsions were said to be largely limited to the right side. While

* From the Department of Pediatrics, Yale University School of Medicine, and the Pediatric Service, New Haven Hospital.

the convulsions resulting from birth injury may be, and perhaps usually are, generalized, nevertheless, the presence of predominantly unilateral attacks was especially suggestive of an injury in the nature of a cerebral hemorrhage. Against this diagnosis was the record of good health during the first five weeks of life.

The patient showed none of the characteristic symptoms and signs of manifest tetany. There was no laryngeal spasm, no tenseness of the facial muscles, no Chvostek's sign and no carpopedal spasm. While local twitchings occur frequently in manifest tetany, frank convulsions are rarely predominantly unilateral as in this patient; they are usually generalized and have few if any characteristics distinguishing them from grand mal. The fact, demonstrated in this case, that the only clinical manifestation of tetany which very young infants may show is convulsions, should be widely appreciated.

The electrical reactions at the time of the first admission were strongly suggestive of tetany in that both anodal contractions were obtained with a current of less than 5 milliamperes, and the anodal opening was obtained with a weaker current than the anodal closing contraction—anodal reversibility. However, the pathognomonic phenomena were lacking; i. e., a cathodal opening contraction or cathodal closing tetanus with less than 5 milliamperes of current. On the second admission, there was also cathodal opening hyperexcitability.

Perhaps the most important point against a diagnosis of tetany was the tender age of the patient. While no absolute restrictions are ordinarily placed on the age incidence of infantile tetany, nevertheless, its occurrence before the fourth month of life is generally held to be so rare as scarcely to warrant its consideration as a serious possibility in diagnosis in infants below this age. In this respect, as in many others, infantile tetany runs a parallel course with infantile rickets. In the forms now regarded as characteristic, these two closely related disorders seldom manifest themselves before the fourth or fifth months. But, as demonstrated by the case of tetany here reported and by the case of early rickets already reported by Dunham,[1] both maladies may show themselves unmistakably within the first few weeks of life. Just as one must be open minded in regard to the occurrence of congenital rickets, so one must regard tetany as a possible occurrence even when age is still recorded only in weeks or even days.

CONCLUSIONS

1. In a patient with infantile tetany manifested at the age of 5 weeks, the first and only symptom was convulsions, largely confined to one side. These seizures had been occurring at intervals during the two weeks prior to the establishment of the diagnosis when the patient was 7 weeks of age.

2. The diagnosis was strongly suggested by the electrical reactions and definitely established by the demonstration of a total blood calcium concentration of 5.93 milligrams per hundred cubic centimeters of serum.

3. The symptomatology of infantile tetany may be atypical or the usual manifestations entirely lacking when the condition occurs in very young infants. The only symptom may be convulsions, a fact deserving of wide recognition.

4. It is perhaps not overemphasizing the point to state that convulsions of any kind occurring in any infant, regardless of age, should be looked on as tetany until the negative is proved.

5. The grave nature of the condition, the possibility of accurate diagnosis and the favorable results of treatment demand prompt recognition of tetany at whatever age it may occur.

1. Dunham, E. C.: Rickets in an Infant of Thirty-Four Days, Am. J. Dis. Child. 26: 155 (Aug.) 1923.

TREATMENT OF RAYNAUD'S DISEASE

BY LUMBAR RAMISECTION AND GANGLIONECTOMY AND PERIVASCULAR SYMPATHETIC NEURECTOMY OF THE COMMON ILIACS *

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In a series of five cases of spastic paraplegia in which lumbar sympathetic neurectomy was performed for the relief of muscular spasticity, blood flow and skin temperature determinations, before and after operation, were carried out. Calorimetric studies were made with the Stewart-Kegerreis foot calorimeter to determine the heat production and radiation of the lower extremities. Surface temperature estimations and intensive clinical studies showed conclusively that marked vasodilatation took place immediately after removal of the second, third and fourth lumbar ganglions and sympathetic cord, and after severing of the gray rami. The lower extremities became hot and dry. The skin temperature in the feet increased from 2 to 7 degrees following operation. Increase in the heat production and dadiation of the feet from 200 to 900 per cent. was likewise noted (Chart 1). There were mild color changes in the lateral aspects of the feet. The skin exfoliated, and sweat gland activity was completely absent. This evidence of increased blood flow persisted during the entire postoperative observation period, which varied from three to six weeks.

It was apparent, since marked vascular dilatation followed lumbar sympathetic neurectomy, that this operative measure should be applicable to the treatment of Raynaud's disease. The underlying symptoms of this disease are abnormal sensitivity of the vasoconstrictor nerves, with continuous and intermittent types of spasm of the smaller arteries and arterioles of the extremities. The threshold of stimulation of the vasoconstrictor fibers is low to cold and, frequently, to psychic influences. The color changes observed in Raynaud's disease are dependent on the arterial constriction. Syncope indicates a complete arterial closure for varying periods of time and little or no blood in the capillaries or small venules. Asphyxia, which

TABLE 1.—*Surface Temperature of the Legs Before and After Lumbar Sympathetic Neurectomy in a Case of Raynaud's Disease* *

Age and Sex	Date, 1925	Temperatures, C.							
				Right			Left		
		Mouth	Room	Thigh	Leg	Foot	Thigh	Leg	Foot
16 F	3/18 a.m.	37.0	22.0	33.7	31.55	30.5	35.1	32.4	31.25
	p.m.	....	22.0	36.0	34.4	30.15	34.3	32.1	31.2
	3/19	Bilateral lumbar sympathetic neurectomy							
	3/24	36.9	22.4	34.5	34.9	33.6	34.2	34.5	34.2
	3/30	36.5	22.8	33.4	32.2	33.0	33.0	33.4	35.5

* Determinations made with thermocouple apparatus devised by Sheard of the Section on Physics, Mayo Clinic.

* From the Section on Neurologic Surgery and the Section on Medicine, Mayo Clinic and the Mayo Foundation.

supervenes after a time, is due to the passing of small amounts of blood into the capillaries from both the arterioles and the venules. The capillaries are then filled with static blood.

Complete capillary stasis has been observed for from twenty to thirty minutes. The capillaries become more dilated during the longer periods of stasis, the blood becomes blue, and the marked cyanosis of the extremities completes the clinical picture of the capillary phenonema. The period of rubor or compensation is due to the resumption of arterial flow and the rapid change of the cyanotic blood into red oxygenated blood, but as capillary tone is not completely restored, the capillaries still remain partially dilated. There is loss of coordination between the capillaries and arterial function during asphyxia. The arterioles are still contracted, although there is intermittent relaxation while the capillaries are dilating throughout the period of stasis with greater oxygen unsaturation of the capillary blood.

Successful measures for the relief of the vasomotor disturbances should permanently depress or destroy the

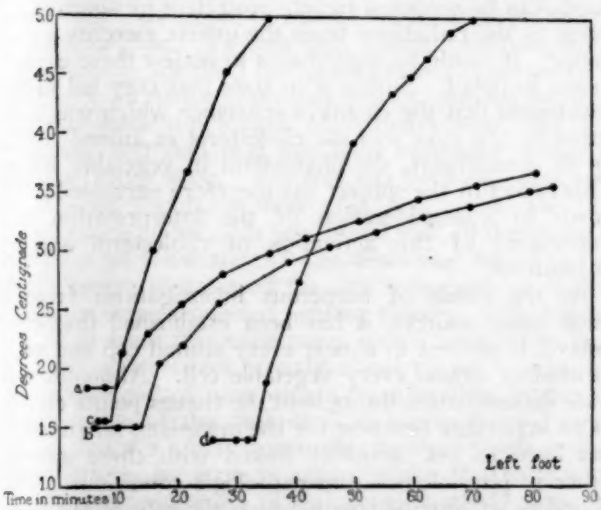

Chart 1.—Increased production and radiation of heat in the right foot following lumbar ramisection in a case of spastic paraplegia.

overactive vasoconstrictor influences of the acral arterioles. These requirements seem to be fulfilled by lumbar sympathectomy. We determined to try this measure in the treatment of Raynaud's disease in the lower extremities. The following case illustrates the effects of this operation.

REPORT OF CASE

A Jewish girl, aged 16, had had sore feet for the last six or eight years. There was no indication of any similar trouble in the family history. The patient had had typhoid fever at the age of 3 years, scarlet fever at the age of 6, and frequent colds and attacks of sore throat. Soreness and sharp pains in the ankles and shooting pains up the legs were occasionally noted. These symptoms had been associated with increasing coldness of the feet. For several years, the patient had noticed that her feet became white on rising in the morning, and that they became blue and mottled after exercise. They were never red, and there had never been definite burning or tingling. During cold weather, the pain and soreness was aggravated, and the cyanosis increased. For the last two years a similar condition had been noted in the hands, coldness increasing with varying degrees of cyanosis. Two months before examination, superficial painful ulcers had developed over the malleolar surfaces of both feet.

At examination there was moderate fatty puffiness of the lower legs and feet, and the feet were blue, purplish, mottled, and cold to touch. The toe-nails were slightly thickened, and there were three small superficial ulcers over the internal and external malleoli and at the base of the second right toe.

TABLE 2.—*Calorimetric Studies of the Right Foot Before and After Lumbar Sympathetic Neurectomy for Raynaud's Disease* *

	Blood Pressure			Temperatures, C.			Right Foot		
Date, 1923	Systolic	Diastolic	Pulse	Mouth	Outdoor	Room	Total Calories for 20 Minutes	Sq. In. of Surface Area	Calories Each Min. for Each Sq. In.
3/12	100	80	82	36.5	4.4	22.0	940	92	0.51
3/18	90	58	90	37.0	6.0	22.0	960	92	0.52
3/19	Bilateral lumbar sympathetic neurectomy								
3/27	106	70	95	37.0	8.4	22.0	1,500	92	0.81
3/28	106	70	94	36.8	8.8	21.6	1,500	92	0.81
4/ 7	100	60	82	36.5	23.7	24.5	1,580	92	0.86

* Patient at rest. Determinations made with Stewart-Kegerreis calorimeter.

There was marked tenderness of the tibia. All vessels were palpable except those of the left dorsal pedis which, however, could be felt intermittently. The circulatory efficiency test showed the skin color to be maintained at an angle of 180 degrees, and mild rubor was present in the legs when in the pendent position. The systolic blood pressure was 122, the diastolic 84, and the pulse rate 86. Roentgenograms of both legs gave negative findings. Oscillometer readings with the Pashon oscillometer showed slight pulsation below the ankles and marked pulsation above them. A diagnosis was made of Raynaud's disease with early trophic disturbances.

A bilateral ramisectomy was performed, the second, the third and fourth lumbar ganglions and trunk being removed on both sides with division of the rami. The outer sheath of the common iliac artery on both sides was stripped for a distance of about 5 cm. Following the operation, the feet were warm and pink; the skin temperature was increased 3 degrees in the right foot and 4 degrees in the left, and the skin was dry. There was a sharp transition in the temperature line, about 15 cm. below the iliac crest, the temperature gradually increasing toward the feet. The patient complained of a mild burning sensation in the feet when covered with the bedclothes.

COMMENT

The diagnosis of Raynaud's disease in this case was based on the age and sex of the patient, the history of

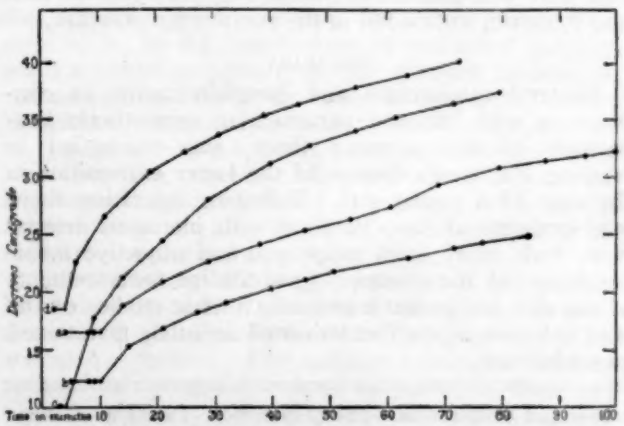

Chart 2.—Increased production and radiation of heat in the right foot after operation in a case of Raynaud's disease: *a*, before operation; *b*, before operation; *c*, after operation; *d*, after operation.

the typical color changes in the skin induced by cold, the syncope, the cyanosis, and the mild rubor or incomplete recovery phase. The effects of cold were decided, most marked changes appearing in the morning while

the patient was dressing, when her feet became pale or cyanotic. Aching tingling sensations, frequent attacks of pain and trophic disturbances of the malleolar surfaces completed the clinical proof of the existence of the disease. Examination of the peripheral arteries showed that all vessels were open and pulsating except the left dorsalis pedis. As the feet were fat and puffy, it was extremely difficult to find this vessel. Because of the circulatory efficiency test in which the blood flow of the feet was maintained at an angle of 180 degrees, it was believed that there was no occlusion of the arteries. There were no indications that thromboangiitis obliterans or endarteritis obliterans was present. Vasomotor disturbances of a similar nature were appearing in the hands. The nail-fold capillaries were dilated, and variable stasis was observed in all loops, which became complete with lowered room temperature. The effects of operation were entirely satisfactory. There was clinical evidence immediately after operation

TABLE 3.—*Effects of Cold Air on Skin Temperature* *

	Temperatures, C.								
		Left Hand					Left Foot		
Date, 1925	Room	Thumb	First Finger	Second Finger	Third Finger	Fourth Finger	Sole	Toe	Comment
4/4	23.0	25.2	24.6	23.9	23.8	23.9	29.9	29.1	Room warm; feet and hands warm and normal in color
	19.0	18.0	18.0	19.7	19.8	18.0	23.0	24.1	Room cold; feet, normal color; hands blue and cold

* Determinations made with Sheard thermocouple apparatus.

of increased blood flow in the extremities. Calorimetric studies of the heat radiation in the feet demonstrated an increase of total small calories from 940 to 1,500 (Table 2, Chart 2). The mild transitory puffiness disappeared; the skin became excessively dry, and twelve days after operation, there was a marked exfoliation of the epidermis of the palmar surfaces of the feet. Three days later, the patient was exposed to an environmental room temperature of 15 C., and the skin temperature of the upper and lower extremities was recorded (Table 3). The temperature and color of the feet were well maintained, while the hands became cold and cyanotic, with a fall in the surface temperature.

SUMMARY

Bilateral ramisection and ganglionectomy, in conjunction with bilateral perivascular sympathetic neurectomy of the common iliacs, was successful in treating Raynaud's disease of the lower extremities in the case of a young girl. Following operation there was evidence of vasodilatation with increased arterial flow, with relief from subjective and objective manifestations of the disease. Quantitative measurements of the skin temperature and calorimetric studies of the heat radiation of the feet indicated definitely maintained vasodilatation.

Diet and Civilization.—The preparation of food in civilized countries undoubtedly leads in many instances to the deprivation of the vitamin constituents. Bread, for example, is made from flour of which the wheat grain has been almost entirely deprived of its aleurone coat and germ. The millers are not to be blamed for this; the public demands a loaf of special character as regards whiteness and physical texture which can be obtained only by the present process of milling.—Willcox, W. H.: *Practitioner* **114**:5 (Jan.) 1925.

THE ANTIRACHITIC ACTIVATION OF FOODS AND OF CHOLESTEROL BY ULTRAVIOLET IRRADIATION *

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As is well known, animals as well as infants can be protected from rickets by means of the ultraviolet radiations from the sun or the mercury vapor or carbon arc lamps. About a year ago I communicated to the American Pediatric Society experimental data which showed that similar results can be brought about in an indirect way—that the ultraviolet rays can endow inactive oils with antirachitic properties, and that rickets can regularly be prevented or cured by feeding such substances to rats.[1] Linseed oil and cottonseed oil were cited as examples in which this remarkable metamorphosis had been brought about. Shortly thereafter, similar results were reported by Steenbock and his co-workers.[2] Since that time a series of papers has been published from this laboratory showing that refined wheat flour, dry milk, vegetables and other foods can be rendered rickets-protective by short exposures to the radiations from the quartz mercury vapor lamp.[3] It would be superfluous to review these experiments in detail. Suffice it to state that they led to the conclusion that the chemical substance which was activated by the rays was the cholesterol in animal foods, or its counterpart, the phytosterol in vegetable foods. This aspect of the subject has therefore narrowed itself down to a consideration of the interpretation and importance of this activation of cholesterol and of phytosterol.

As the result of numerous investigations from a great many sources, it has been established that cholesterol is present in almost every animal cell and phytosterol in almost every vegetable cell. Although this wide dissemination throughout the tissues points clearly to an important function for the organism, no function has been as yet definitely linked with these sterols, either in physiologic or in pathologic conditions. The disorders of nutrition with which cholesterol has been associated are manifold; they include the various anemias, cholelithiasis, functional and organic nervous disturbances, etc., but in none of these conditions has the association been found to be constant or essential. It is therefore of peculiar interest that cholesterol, which is inactive in its ordinary state, is found to have acquired antirachitic potency after it has been subjected to ultraviolet radiations. This specific activity is manifest whether it is tested in relation to the type of rickets that is brought about by a deficiency of phosphorus or the type occasioned by a deficiency of calcium.

The experiments that I have just summarized are biologic in nature and are carried out by a procedure that may be stated to have been standardized during the last few years; this technic consists essentially in feeding young rats a ration deficient in one or more constituents, and in attempting to protect them from rickets by means of various additions to the dietary.

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* Read before the Section on Pathology and Physiology at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

1. Hess, A. F.: Proc. Am. Pediat. Soc., June 7, 1924; abstr. Am. J. Dis. Child. **28**: 256 (Aug.) 1924.
2. Steenbock, Harry: Science **60**: 224, 1924.
3. Hess, A. F., and Weinstock, M.: Proc. Soc. Exper. Biol. & Med. **22**: 5, 6, 1924; p. 227, 1925; p. 319, 1925, J. Biol. Chem. **62**: 301 (Dec.) 1924; **63**: 297, 305, 1925.

The success in prevention is judged primarily by the histologic examination of the costochondral junction, by the roentgenographic picture of the knee joint, and by the content of inorganic phosphorus in the blood. Recently, however, we have supplemented this biologic method by a criterion that is chemical in nature. It has been found by spectral absorption tests that the characteristic spectrum of cholesterol is definitely altered after it has been subjected to the rays of the mercury vapor lamp, so that it becomes more transmissible for ultraviolet irradiations. In this way various tests can be carried out without the use of animals. This modification in spectral absorption clearly demonstrates that the chemical structure of cholesterol has been altered by irradiation.

As stated, all the cells and tissues of the body contain cholesterol to some extent. The brain, more especially its white matter, contains the highest percentage of all the organs. An organ that is exceptionally rich in cholesterol is the epidermis. It was therefore only natural to inquire whether the protection against rickets which can be brought about in animals and in infants by irradiation is not due to an activation of the cholesterol contained within the epidermis. Experiments were carried out to furnish information in regard to this question. To this end, young rats that were placed on the standard low phosphorus rickets-producing diet were divided into two groups; the one set was fed a definite supplement of ordinary skin, and the other was fed skin that had been irradiated with the mercury vapor lamp. For this test both calf skin and the skin of a cadaver were used, and 1 gm. was fed daily to each animal. It was found that all the animals that received the untreated skin developed rickets to the usual degree, whereas all the rats that received irradiated skin were protected against rickets. The logical deduction from this experiment would seem to be that the antirachitic effect brought about by the irradiation of animals and of man with ultraviolet light is due to an activation of the cholesterol in the superficial layer of the skin, an action comparable to the activation that can regularly be brought about in the test tube with crystalline cholesterol. The inference would seem to be that this change is of a simple chemical nature rather than a complex biologic process, as it can take place when the skin is deprived of all connection with the nervous and circulatory systems. In view of these experiments, it would seem quite unnecessary to account for the effect of irradiation by the hypothesis that the skin is an organ of internal secretion.

Irradiation tests with crystalline cholesterol have shown that if it is irradiated for a long time, for example, for four hours or more, it gradually becomes inactivated, and eventually becomes inert in its relation to rickets. This can be demonstrated either by appropriate feeding experiments on rats or by the spectral absorption tests that have been referred to. Nor can this deactivated cholesterol be reactivated by the rays. If the cholesterol is irradiated for a period of twenty-four hours, it becomes slightly yellow, and if the exposure is continued for forty-eight hours, this color is greatly intensified. Whether this change in color has any connection with the freckling and pigmentation of the skin brought about by the sun's rays is a question which suggests itself but which cannot be answered.

It would seem that the fact that cholesterol becomes inert as the result of prolonged subjection to ultraviolet rays should be considered in the application of irradiation to clinical medicine. Is it possible that too long irradiation with artificial sources of ultraviolet rays may tend to counteract or nullify their beneficent effect? It is impossible to answer this question definitely. It should be borne in mind, however, that there is no satisfactory gage by which to measure the desirable dosage of ultraviolet irradiation. Our procedure is entirely empiric and based on a recently acquired and inadequate fund of clinical experience. In my experience, the tendency has been to overirradiate rather than to underirradiate. Ultraviolet irradiation is regarded as a therapeutic agent that can occasion little harm—at most, an unpleasant reaction of the skin—and not as a procedure that may be injurious. It has not been viewed in the same light as potent drugs, in respect to the dosage of which we are wont to exercise caution. When in doubt, the tendency has been to give an increased rather than a decreased amount of irradiation, and this inclination has been stimulated by the current theory, based on no scientific evidence, that it is necessary to cause a sharp reaction of the skin in order to bring about the desired action. It is not possible at present to state whether or not harmful results may be produced by prolonged irradiation. It is well, however, to remember that we are dealing with a form of energy that is able to effect remarkable changes in the constitution of the blood and the bones, and that these rays should not be applied in indiscriminate amount. From some clinical experiences gathered some years ago when ultraviolet irradiation was first introduced, and when doses of greater intensity were employed, it would seem quite possible that prolonged irradiation may decrease immunity and open the way to infections of the respiratory tract.

The question naturally arises as to what extent the solar ultraviolet rays convey antirachitic properties to the various vegetables which man consumes as food. Mellanby,[4] as the result of his experiments on dogs, believes that vegetables, especially the leafy vegetables, possess decided antirachitic potency. On the other hand, Hess and Unger[5] reported in 1920 that infants developed rickets in spite of a diet that included 30 gm. of spinach daily. During the last few years, the attempt has been made in this laboratory on several occasions to prevent the development of rickets in rats by including green vegetables in the dietary. In no instance was such an experiment successful. In spite of the fact that spinach, green or yellow lettuce or green wheat were added to the ration, even in unlimited quantity, could a rickets-producing diet be changed to one that was protective. Similar experiments have been reported by Zucker[6] from this laboratory and by McClendon[7] in respect to dried spinach. On the other hand, we have been able to endow all these vegetables, whether they were rich in chlorophyl or etiolated, with marked antirachitic potency by means of exposing them to the radiations of the mercury vapor lamp.

This difference in effect between solar and artificial irradiation is readily understood when one considers the marked difference in the intensity of the natural and artificial radiations. The radiations from the lamp are perhaps thirty or forty times as potent as those provided by the sun, and, moreover, are not subject to the irregularities that are inseparable from meteorological conditions. Furthermore, the method of irradiation

4. Mellanby, E.: Special Report Series 61, M. Res. Council, 1921.
5. Hess, A. F., and Unger, L. J.: Clinical Rôle of Fat-Soluble Vitamin, J. A. M. A. **74**: 217 (Jan. 24) 1920.
6. Zucker, T. F., and Barnett, M.: Proc. Soc. Exper. Biol. & Med. **20**: 375, 1923.
7. McClendon, J. F., and Shuck, C.: Proc. Soc. Exper. Biol. & Med. **20**: 288, 1923.

plays no small rôle in the result; when the leaves were irradiated in the laboratory, the utmost care was exercised to bring about complete exposure of their entire surface, whereas in nature a very small part of the surface of the growing plant is subjected to direct irradiation. Recently we have tested green vegetables grown under the tropical sun of the West Indies, and found that even when they were fed to rats in unlimited quantity they failed to protect against rickets. We are of the opinion, as the result of these clinical and laboratory experiences, that the solar rays do not endow vegetables with a considerable degree of antirachitic potency, and that green vegetables, such as spinach, cannot be relied on for either the protection or the cure of rickets.

Treatment of Rachitic Infants with Irradiated Foods (March)

	Age, Months	Food	Inorganic Phosphorus, Mg.	Roentgenogram
1	5	Carrots	3.1-2.9	Slight healing
2	5	.....	3.2-3.2	Negative
3	5	.....	3.2-2.3	Negative
1	9	Spinach	2.7-3.5	Slight healing
2	19	.....	2.6-3.5	Slight healing
3	7½	.....	3.4-2.9	Negative
1	4	Cholesterol (3% in oil)	2.2-2.7	Slight healing
2	5	.....	2.2-3.1	Slight healing
3	6	.....	2.5-4.5	Slight healing
1	13	Dry milk	2.6-4.1	Moderate healing
2	13	.....	3.3-5.1	Healed
3	9	.....	2.4-4.8	Moderate healing

The remarkable antirachitic potency that can be brought about in vegetables or animal foods by means of artificial irradiation naturally prompts the question as to the application of this procedure to practical dietetics. In a previous communication the fact has been referred to that infants as well as animals can be protected from or cured of rickets by adding irradiated milk to their dietary. Cowell [8] has recently reported cures of rickets in infants by feeding irradiated milk, and Steenbock and Daniels [9] have shown that the addition of irradiated olive oil to the dietary of nonrachitic infants leads to an improvement in the calcium balance. The accompanying table illustrates the results obtained in cases of rickets by giving irradiated foods or cholesterol. It will be noted that the best result was obtained with irradiated dry milk, as judged by the roentgenographic picture and the increase of inorganic phosphorus in the blood. This milk was irradiated in thin layers for a period of one-half hour with the lamp at a distance of 1 foot, and was fed on the day on which it was irradiated.

The most unsatisfactory result was obtained with carrots that had been irradiated. This lack of activation is due probably to the inhibiting effect of the carotin. As is well known, yellow pigments absorb ultraviolet rays to an exceptional degree. This was demonstrated by a test that we carried out recently in connection with the activation of cholesterol. When cholesterol is suspended in water, it invariably can be rendered antirachitic by means of irradiation for one-half hour with the lamp at a distance of one foot. However, if the water in which the cholesterol was suspended was colored by means of a carotin solution to a tint approximating the intensity of carrots, it was found that the usual activation had failed to take place. The carotin, which was decolorized in the course of the irradiation, had prevented the action of the rays on the cholesterol. It is quite possible that one of the functions of carotin in the vegetable world is to permit the transmission of only such solar rays as are of value to the nutrition of its cells and tissues. In regard to the spinach, recorded in the table, which was found to have developed antirachitic properties, it should be added that it was cooked for one-half hour subsequent to having been irradiated, and that this process did not seem to have affected its activity. A similar result was obtained in the laboratory with feeding tests with cooked spinach that had been irradiated previously.

In spite of the fact that spinach and other vegetables can be changed from foods that have little or no antirachitic value to foods that possess specific virtue in this respect, it does not seem that this procedure will be adopted in feeding infants. The inherent difficulties connected with these irradiations, which would have to be carried out daily with skill and care, are such as to render the method impracticable. This would appear to be all the more the case as babies can be protected against rickets either by direct irradiation or by giving cod liver oil or yolk of egg. The same criticism holds good in regard to the irradiation of fluid milk. Although the feasibility of activating this food has been demonstrated, it would seem that technical difficulties militate against an extended use of "irradiated milk" in infant feeding. The situation is somewhat different in regard to dry milk, both because this food is concentrated and because it would not be necessary to irradiate it daily. The question of the practical value of irradiated dried milk is associated largely with various factors that have not yet been determined. It will have to be ascertained whether milk treated in this way acquires any disagreeable taste or odor, what its keeping qualities are, and for how long a period adequate activation is maintained. A recent test has shown that dried milk that had been irradiated three months before was still of decided antirachitic value.

It will be noted that the table includes a feeding test with cholesterol. This cholesterol was irradiated in a dry state for one-half hour, with the lamp at a distance of one foot, and was at once incorporated in cottonseed oil to the extent of 3 per cent. An extended series of experiments had demonstrated the fact that cholesterol which had been activated by ultraviolet rays rapidly lost this acquired characteristic when kept either in a dry state or suspended in water, but that it did not undergo this "aging process" when dissolved in oil. Whether its potency is fully maintained in this oily solution was not determined. Irradiated cholesterol, when given in this form in the dosage of two teaspoonfuls daily, brought about definite improvement in the course of four weeks. The time is not ripe for an opinion as to whether the antirachitic action of irradiated cholesterol is comparable to that of ultraviolet rays or to the effect of cod liver oil or its active principle.

An infinite variety of foods can be endowed with antirachitic virtue by means of irradiation; this list includes flour, the various foods prepared from flour, and the vegetable oils. It does not seem, however, that the activation of these foods will secure a wide sphere of application in dietetics. The same holds true in regard to enhancing the antirachitic potency of cod liver oil, a suggestion that is frequently made. Although such a result can be brought about by means of irradiation, nothing essential is gained thereby, as the objectionable taste and odor of the oil remain unchanged, and the requisite dosage is but slightly diminished.

8. Cowell, S. J.: Brit. M. J. **1**: 594 (March 28) 1925.
9. Steenbock, Harry; and Daniels, Amy L.: Irradiated Foods and irradiated Organic compounds, J. A. M. A. **84**: 1093 (April 11) 1925.

The established fact that foods, as well as cholesterol and phytosterol, can be endowed with specific antirachitic potency has, quite apart from any clinical application, decided theoretical interest and value. It demonstrates a definite physiologic process by which ultraviolet rays can bring about a change in the tissues, and furnishes a chemical basis for interpreting one of the effects of heliotherapy. What may be the relation of this activation of cholesterol to the broad problem of the nature of vitamins depends largely on our definition of a vitamin. At present the definition is so vague and varied that it would be futile to consider whether a vitamin has been formed by means of irradiating cholesterol. All that can be stated definitely in this connection is that a chemical substance which is ubiquitous in the cells of the body can be rendered specifically curative as the result of exposure to ultraviolet radiations, and that a minimal amount—less than 1 mg. a day of this activated substance—suffices to protect experimental animals from the lesions of rickets.

16 West Eighty-Sixth Street.

THE TREATMENT OF AMEBIASIS BY ORAL ADMINISTRATION OF STOVARSOL

(ACETYLAMINOHYDROXYPHENYLARSONIC ACID)*

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The publication by Marchoux [1] of the Pasteur Institute, in February, 1923, of the discovery of the specific amebicidal property of a new synthetic arsenical designed by Levaditi and his co-workers [2] and the subsequent confirmation of this finding by other French investigators, notably Garin and Lepine,[3] led us to investigate the properties of this drug. In a previous paper, we [4] published observations in a number of cases of amebic dysentery which confirmed the clinical results obtained by Marchoux. Our purpose in this communication is to record further observations in a large number of cases and the results of the treatment of those cases that we have been able to follow for a sufficient length of time to determine, to a limited extent, the curative effect of the plan of treatment employed with this drug.

Our observation of the results of treatment with stovarsol in forty-six patients has shown a complete relief of all dysenteric symptoms in all patients within a period of from three to six days on the administration of from 0.5 to 1 gm. of stovarsol by mouth daily, regardless of the initial severity of the process. Clinically, these cases ranged from the acute fulminating infections, with from thirty to forty bloody-mucoid stools daily, down to the very chronic variety, in one instance lasting over a period of twenty-five years. The simple administration of an apparently nontoxic drug by mouth without altering the manner of life or diet of these patients presented a marked contrast to our former methods by the use of painful hypodermic administration of emetin or the nauseating doses of ipecac pills, which frequently required sedatives and a prolonged hospitalization of the patient to administer successfully. The treatment has also been found especially advantageous in patients with severe cardiac lesions, with the toxemia of pregnancy and in very small children. The results in a few cases of amebic hepatitis have been fully as satisfactory as with the administration of emetin.

As amebic dysentery is often characterized by long periods of remission, and as during this time it is often impossible to demonstrate the presence of amebas by stool or proctoscopic examination, we selected a group of patients who had received fairly uniform doses of stovarsol for an extended period of observation in order to arrive at some definite information regarding ultimate cures with this necessarily more or less empiric plan of treatment. Of this series of twenty-seven patients, four were apparently cured by the administration of 0.75 gm. of stovarsol daily for seven days; sixteen with the administration of two such courses of treatment, with a seven day rest interval between courses; one with three courses; four with four courses, and one with seven courses. One patient received eight courses, but relapsed within a few days following the completion of each course.

Repeated clinical, proctoscopic and stool examinations of these patients up to the present time have given the following results:

Twenty-one patients (77.7 per cent.) have remained free from symptoms and parasites for an average of 115 days (3.8 months), with a minimum period of observation of one month and a maximum of 6.5 months.

Five patients remained well and free from demonstrable lesions or amebas (vegetative or encysted forms), and then relapsed clinically or microscopically within an average of 118 days (3.9 months).

One patient received as many as eight courses of stovarsol, and while he was improved sufficiently to enable him to work for the first time in several years, he has invariably relapsed shortly after each course of treatment.

Three of the cured patients received seven daily injections of 0.65 gm. (1 grain) of emetin during the interval between courses of stovarsol. Two of the patients who relapsed received the same amount of emetin, and another of the uncured patients received eighteen (0.65 gm.) injections. It would appear, therefore, that the small amount of emetin administered to the cured patients did not influence the findings to any great degree.

Stovarsol,[5] according to the manufacturers, is the acetyl derivative of 3-amino, 4-hydroxyphenyl, 1-arsonic acid, and according to the formula contains 27.1 to 27.4 per cent. arsenic. As with other pentavalent arsenicals, the toxicity is relatively low. We have observed only two patients who exhibited any toxic symptoms, which were in the form of mild arsenical rashes. There is apparently little cumulative action even when given over long periods of time. For instance, Sézary and Barbé [6] report the intravenous injection of 1.5 gm. of stovarsol

* From the Department of Medicine, Tulane University School of Medicine.

* Read before the Section on Pharmacology and Therapeutics at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

1. Marchoux, E.: Bull. Soc. de path. exot. **16**: 79-81 (Feb. 14) 1923.
2. Levaditi, Navarro, Martin, Fournier and Schwartz: Ann. de l'Inst. Pasteur **36**: 729 (Nov.) 1922.
3. Garin, C., and Lepine, P. R.: Proceedings of the International Conference on Health Problems in Tropical America, held under the auspices of the Medical Department of the United Fruit Company, in Kingston, Jamaica, July, 1924, p. 309.
4. Johns, F. M., and Jamison, S. C.: New Orleans M. & S. J. **77**: 469 (May) 1925.
5. Stovarsol has been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies.
6. Sézary and Barbé: Paris méd. **14**:457 (Nov. 22) 1924.

to twenty-three patients with syphilis three times weekly over periods of five weeks, and the repetition of these courses several times; and in an experimental way, Dr. H. W. Butler of our staff has administered to dogs for one month three times the maximum kilogram-dose that we have employed; and one dog was given six times the kilogram-dose for an additional month without the production of any demonstrable changes in the histologic appearance of any of the vital organs. It would appear, therefore, that a more prolonged treatment than we have employed would be entirely feasible. This would undoubtedly give a higher percentage of ultimate cures. In a later communication, Marchoux [7] records the cure of fifty-nine cases of amebiasis with only two failures, and recommends the continuous use of the drug over a period of four weeks.

SUMMARY

Forty-six patients with amebiasis were treated with stovarsol with very favorable results. A series of twenty-seven patients was kept under observation for some time to determine the permanence of the "cure." Twenty-one patients have remained well and free from parasites for an average of 3.8 months. Five patients relapsed after remaining well an average of 3.9 months. One patient repeatedly relapsed within periods of from three to seven days.

CONCLUSIONS

The results of treatment of amebiasis with stovarsol are favorable, rapid and perhaps equal to any other drug or method of treatment ordinarily employed. It is reasonable to expect that better results will be obtained whenever the most effective method, with reference to dosage and duration of treatment, will have been determined.

ENDAMEBA COLI

A CLINICAL STUDY *

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AND
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It is a matter of general statement that infestation with *Endameba coli* is harmless. Many authorities hold further that it is not eradicable. In the knowledge that *E. coli* lives chiefly or entirely in the intestinal contents, it is assumed that it cannot damage the intestinal mucosa. The chief departure from this teaching is found in the effort of Kofoid to establish a separate species of *E. coli* named *Councilmania lafleuri*, which, he believes, is pathogenic. As to the validity of this species, we are not here concerned. To forestall criticism, however, on this point, we have recognized in a separate series those of our cases in which *E. coli* of the *Councilmania* type was harbored.

One of us [1] has previously taken the position that *E. coli*, together with the other intestinal protozoa, may be potentially pathogenic. This capacity to damage the host has been stated to be possible: (1) By direct tissue damage to the mucosa; (2) by irritation causing reflex symptoms in the gastro-intestinal tract or elsewhere; (3) by disturbance of digestive processes resulting in intermediate or abnormal protein bodies which may be toxic, and (4) in their disintegration or cytolysis releasing possible toxins for absorption. To these we now would add, (5) by possible migrations from the intestinal tract or presence in the body from other portals of entry than the intestinal tract.

In the series of cases here reviewed, gross pathologic changes were carefully excluded, and only minor and inconsequent organic changes were present. All the patients were seen in the Stanford medical service, both inpatient and outpatient. The proportion of foreigners to natives was as 2 to 1 and most of the foreigners were southern Europeans.

TABLE 1.—*Effect of Treatment in Cases in Which Endameba Coli (Councilmania Type) Was Found*

No.	Nativity	Sex*	Age	Complaint	Effect on Symptoms	Effect on Stool
1	Norwegian	♂	56	Neuralgia	Marked improvement	?
2	United States	♂	47	Flatulence	Marked improvement	Neg. 2 yr.
3	Italian	♂	32	Pain in stomach	Marked improvement	Neg. 1 mo.
4	United States	♂	50	Pain in stomach	Marked improvement	Neg. 2 mo.
5	Italian	♂	35	Pain in shoulder	?	Neg. 2 mo.
6	United States	♂	29	Pain in stomach	None	Neg. 2 mo.
7	French	♂	45	Burning in foot	Improved	Neg. 2 mo.
8	Greek	♂	27	Pain in chest	Improved	Neg. 4 mo.
9	Jew	♀	63	Gastric	Improved	Neg. 2 mo.
10	Russian	♂	29	Constipation	?	Neg. 3 mo.
11	Japanese	♀	27	Weakness	?	Neg. 5 mo.
12	United States	♀	40	Rheumatism	Improved	Neg. 2 mo.
13	United States	♀	40	Rheumatism	Improved	Neg. 2 mo.
14	Greek	♂	43	Arthritis	Improved	Neg. 1 mo.
15	Jew	♀	36	Pain in stomach	Improved	Neg. 3 mo.
16	United States	♀	39	Flatulence	Much improved	Neg. 3 mo.

* In this column, ♂ indicates male; ♀, female.

The complaints and symptoms were more or less variable and indefinite, in many comprising a picture usually described as neurasthenia. The most frequent reports were of epigastric discomfort, flatulence and constipation, not accounted for by the presence of any discoverable organic lesion of the digestive tract. All patients had, as a routine, physical examination, history, blood count, Wassermann test, urinalysis, gastro-intestinal roentgenograms, stool analysis and, frequently, gastric content analysis.

Other group symptoms were even less definite, as general debility, fatigue, vertigo, neuralgic pains and physical discomfort. Most of these patients were middle-aged men. Accompanying tables give statistical and other details.

TABLE 2.—*Effect of Treatment in Cases in Which Endameba Coli was Found*

No.	Nativity	Sex	Age	Complaint	Effect on Symptoms	Effect on Stool, Neg.	Associated Diseases
1	English	♂	55	Pain in joints	Relieved	3 mo.	Arthritis
2	United States	♂	29	Gastric	Improved	2 mo.	Nephrosis
3	Persian	♂	37	Pain in chest	Improved	3 mo.	Congenital anomaly
4	Swedish	♂	66	General pains	Imporved	2 mo.	Diabetes
5	Greek	♂	34	Flatulence	?	2 mo.	Gastric ulcer
6	United States	♂	56	Vertigo	Improved	4 mo.	Psychoneurosis
7	United States	♀	35	Vertigo	Unchanged	3 mo.	
8	United States	♀	29	Pain in shoulder	?	2 mo.	Tonsillitis
9	Mexican	♂	40	Constipation	Improved	4 mo.	
10	United States	♂	52	Indigestion	?	6 mo.	
11	Italian	♀	25	Vertigo	None	2 mo.	

A routine treatment was used in this group similar to that employed against *E. histolytica*. It included three average doses of neo-arsphenamin, ten doses of emetin hydrochlorid, 1 grain (0.06 gm.) each day, hypodermically, and about 30 grains (2 gm.) of emetin

7. Marchoux, E.: Paris méd. **14**: 421 (Nov. 22) 1924.

* From the Division of Medicine, Stanford University Medical School.

1. Reed, A. C.: Nondysenteric Amebiasis, California State J. Med. **20**: 253 (Aug.) 1922.

bismuth iodid, 2 or 3 (0.13 or 0.2 gm.) grains daily by mouth. Out of twenty-seven cases, this treatment was followed by negative stools on adequate examination, for periods of from two to six months. A few cases observed as long as two years have not shown return of *E. coli* cysts.

In symptoms, about two thirds showed definite improvement, and 10 per cent. were greatly improved. The remaining third were unchanged in symptomatology.

It is suggested that patients with vague, minor or apparently functional symptoms should not be abandoned to the hopeless shades of neurasthenia or neurosis without analysis of stools for protozoal infection. While we have no accepted criterion of cure of intestinal protozoa, we find that *E. coli* can be satisfactorily eradicated by the same methods used against *E. histolytica.*

380 Post Street.

Clinical Notes, Suggestions and New Instruments

PELVIRECTAL AND VAGINAL HEMATOMA: REPORT OF A CASE

EDWARD W. JEW, M.D., PITTSBURGH

Rarely does the proctologist find a tumor mass occluding the rectal lumen from without that is not inflammatory. Some of the more frequent causes are sarcoma, cold abscess, tumors of the prostate, fibroma of the sacrum and tumors of the vaginal septum and female reproductive organs, and also an occasional dermoid.

Hematomas obliterating the rectal lumen from without are rare.

REPORT OF CASE

History.—Mrs. E., white, aged 21, had a normal spontaneous delivery, March 7, 1925. She had an apparently normal puerperium, with the exception of some pain in the lumbar region. She was examined vaginally and discharged on the tenth day, everything being normal.

Four days later, I was called to see her for her complaint of pain in the rectum and lower back, inability to sit and marked weakness. Further questioning revealed that she had difficulty in passing flatus and difficulty in voiding. There had been no chills or fever, but she had what she termed "nervous spells," when she became hot and cold.

The family history and past medical history were essentially negative.

Examination.—The patient was fairly well nourished and lay comfortably in bed. There was a marked pallor. There was no cyanosis or jaundice. The head and neck were essentially normal, except for paleness of the mucous membranes. There was no adenopathy. The chest showed symmetrical expansion equal, no dyspnea, no increased fremitus, breath sounds well heard and no râles. There was no precordial bulging and no shock or thrills. An apex beat was not seen or felt. No murmurs were heard, and the sounds were distant. The pulse rate was 100. The systolic blood pressure was 100, and the diastolic, 78. The abdomen was flat, the walls were soft, and striae were present. There was no rigidity and no points of tenderness. There was some discoloration about the left perianal region, but no local tenderness and no redness.

In the digital examination, as soon as the finger passed the internal sphincter muscle, it met a stony, hard mass which had almost completely obliterated the rectal lumen. The mass was fixed and was outside the mucous membrane of the rectum.

The left labium seemed a bit full and slightly discolored. The mass extended into the vagina and completely obliterated the vaginal lumen. The mass was hard and fixed. A diagnosis of massive hematoma was made, and the patient was advised to go to the hospital.

Treatment and Course.—On admission to the hospital, the patient was quite restless. The temperature was 99 F., pulse rate 100, and respiration 22. The red blood cell count was 2,900,000; white blood cell count, 9,500; hemoglobin, 55 per cent.; clotting time, five minutes, and blood type, Jansky 1.

Under gas-oxygen anesthesia, an incision 2½ inches long was made through the left labium majus in its lower half. All bleeding was controlled, then the hematoma was incised and the clotted blood expressed and removed with gauze. Bleeding was marked, necessitating immediate packing. The hematoma extended up to the broad ligament, and the vessels were felt pulsating. Seventeen and a half feet of 3 inch gauze vaginal packing was used in the hematoma, and 6 feet was used in the vagina. The hematoma was limited below by the levator ani muscle.

The pulse rate rose to 140 after operation, but the volume was good. The patient was given forced fluids as soon as she could tolerate them. The packing was all removed in thirty-six hours, a wick drain was placed in the wound, and the vagina was packed to obliterate the dead space in the pelvirectal region left by evacuating the hematoma. The patient continued to nurse her baby after the first thirty-six hours. There was a small amount of sloughing of the vaginal mucous membrane, but the wound healed in twenty days. The progress of the patient can be seen by the progressive increase in red blood cells and hemoglobin with no medication but plenty of good food, rest and forced fluids.

Increase in Red Blood Cells and Hemoglobin

	Red Blood Cells	Hemoglobin Per Cent.
On admission	2,900,000	55
Eight days later	3,800,000	75
Eight days later	4,100,000	80

Vaginal examination on discharge showed a normal cervix, without lacerations.

COMMENT

This case is undoubtedly one of pressure necrosis of a vessel in the broad ligament which took twelve or more days to rupture, and then extravasated into the pelvirectal space above the levator ani and under the vaginal mucous membrane.

308 Diamond Bank Building.

MALFORMATION OF THE VAGINA OBSTRUCTING LABOR

LOUIS E. PHANEUF, M.D., BOSTON

Malformations of the vagina obstructing labor are of such rare occurrence that this case has been deemed of sufficient interest to warrant recording.

REPORT OF CASE

History.—Mrs. E. W., aged 33, a primipara, seen at the Copp Hospital, Sept. 4, 1923, had been in labor five hours. Her father had died of pneumonia; her mother, two brothers and two sisters were living and well, and there were no chronic diseases in the family. She had had measles and pertussis in infancy; otherwise her health had been good. She began to menstruate at the age of 13; the periods were regular, of the twenty-eight day type, and lasted four days; there was no pain; she passed no clots, and her last period had occurred Nov. 26, 1922, making her confinement expected for Sept. 2, 1923. The patient had been married three years, and this was her first pregnancy.

Examination.—The heart, lungs and extremities were normal; her blood pressure was 120 systolic and 80 diastolic, and the external pelvic measurements were all within normal limits.

The abdominal examination showed a good sized child, with the vertex presenting in the left occipito-anterior position. One vaginal examination had been made by the attending physician while the patient was in labor, at which time he recognized the deformity of the vagina, and called me in consultation.

The external genitals were normal. On entering the vagina, the examining finger reached a fibrous wall, estimated at about one-half inch in thickness, in the median line, about 1 inch from the introitus. On the right, the finger went

into a shallow blind pouch. On the left, a narrow canal, barely admitting the examining finger, was met. This apparently went up to the cervix, although no cervix as such could be felt. The vertex was found presenting, and was stationed in midpelvis. This narrowed vagina precluded the possibility of delivering the child through the natural passages, so that a cesarean section was decided on. Because it was feared that the narrowed canal, with a possible malformation of the cervix, might interfere with drainage, and also because of the fact that the patient had had two vaginal examinations, the Hirst transperitoneal cesarean section was chosen as offering a better protection against infection than would the usual operation, and it was performed as soon as the patient could be prepared.

Operation.—Under ether anesthesia, a low median incision, about 5 inches long, extending from the symphysis toward the umbilicus, was made, and the peritoneal cavity was entered. The uterus, tubes and ovaries were normal, as was the cervix. The peritoneum over the lower uterine segment was incised and separated, together with the bladder. The visceral peritoneum was united to the parietal peritoneum by means of eight interrupted sutures of No. 2 chromic catgut, thus making an extraperitoneal space for the delivery of the child. The lower segment was incised with bandage scissors, and a boy, weighing 8 pounds and 3 ounces (3.7 kg.) was extracted by the vertex; this was followed by the removal of the placenta and membranes. One cubic centimeter of pituitary extract and the same amount of a sterilized preparation of ergot, each cubic centimeter equivalent to 2 gm. of crude drug of normal activity, were injected in the thigh; the cervical incision was closed with interrupted sutures of No. 2 chromic catgut. The peritoneal layers were further united by a continuous suture of No. 2 chromic catgut; the conjoined layers of peritoneum were then brought together in the median line by three interrupted sutures of the same material, and the abdominal wall was closed in layers. At the end of the operation there was no apparent drainage through the vagina; the examining finger was introduced in the narrowed canal on the left, and was pushed through what was apparently the cervix; this was followed by free drainage of blood. After the abdomen had been closed, the stomach was found markedly distended and stood out above the fundus of the uterus. A stomach tube was passed while the patient was still under ether, and a large quantity of gas escaped; an ounce of magnesium sulphate was introduced through the tube, and the patient was returned to her bed in good condition.

Convalescence.—September 5, the patient vomited considerable bile-stained material; gastric lavage was again practiced, and 2 ounces of magnesium sulphate was left in the stomach. The pulse at this time was 120 in rate, and the temperature was normal. September 6, the temperature was normal, and the pulse had dropped between 70 and 80; there was no distention. September 7, the drainage became scant, and the patient had a rise in temperature varying from 99 to 102 F. for two weeks, at which time it again became normal. The abdominal sutures were removed on the ninth day; the incision had healed by first intention. The patient was discharged from the hospital, September 20, sixteen days after operation. The incision was well healed throughout; there was no induration or tenderness; the uterus seemed to be well involuted. The baby had gained in weight, and was discharged well.

COMMENT

Malformation of the vagina obstructing labor is an uncommon condition. Occasionally the septum between the two fused müllerian ducts may persist to the hymen, forming a double vagina. This septum may be pushed to one side during delivery, or it may have to be incised to allow a child to be born. In the case reported it was impossible to deliver a child through the deformed and narrowed vaginal canal; cesarean section was therefore indicated. On account of the malformation it was feared that there might be some difficulty with drainage, and that if such was the case, the increased intra-uterine pressure might be responsible for the escape of lochia between the uterine sutures into the general peritoneal cavity if the classic operation was chosen. For this reason the Hirst transperitoneal operation was performed in order the better to protect the abdominal cavity. The poor drainage was encountered, as expected. In this case it had no harmful effects, as the patient made a perfectly good recovery. She has remained well since the operation, and has not become pregnant for the second time thus far.

395 Commonwealth Avenue.

MERCURY POISONING FOLLOWING THE USE OF MEROXYL*

RICHARD C. BUCKLEY, M.D., NEW HAVEN, CONN.

This case is considered of sufficient importance to report, because it represents the only instance known to me of mercury poisoning following the use of one of the mercurial germicides, meroxyl. Apparently, death resulted from absorption of this drug, which had been used to swab the wound during a protracted orthopedic operation.

REPORT OF CASE

History.—A poorly developed and poorly nourished white girl, aged 13 years, was, from the age of 2 years, unable to walk correctly, because of muscular weakness diagnosed as postpoliomyelitic paralysis. For the improvement of her condition, she was operated on at the New Haven Hospital, Sept. 30, 1924, a fasciotomy, lasting one hour and forty minutes, being done under gas-oxygen anesthesia. The condition of the child was good immediately after the operation, but about seven hours later, signs of collapse appeared and persisted. The child had many loose, involuntary stools, vomited repeatedly, and was, consequently, greatly dehydrated. Measures to combat the collapse were unavailing, and death occurred four days after the operation.

The red blood count was 3,500,000 per cubic millimeter, and the hemoglobin 70 per cent. before the operation. The examination of the urine before the operation was negative, and the only specimen obtained after the operation contained a slight trace of albumin.

Necropsy.—This was performed two hours after death. Only the important findings pertaining to the subject are here included.

The body was poorly nourished and generally poorly developed, and weighed 30 kg. Marked dehydration and atrophy of the subcutaneous tissues were evident from the looseness of the skin and the dryness of all the tissues. A recent operative incision extended from the anterior superior spine of the right ilium to the head of the right femur. There was no evidence, grossly, of infection about this wound.

The external surface of the gastro-intestinal tract showed no abnormal changes. The mucosa of the stomach, duodenum and upper half of the jejunum was intact and uniformly pale pink. But from the lower jejunum to the rectum, a very severe necrotizing process involved the lining epithelium. The mucosa of the lower jejunum gradually changed from its usual appearance to a deep red, swollen lining, with here and there a friable, dark gray membrane adhering to the crests of the transverse folds. The same picture was seen in the upper third of the ilium, but the mucosa of the remainder was entirely obscured by a similar membrane. In the large intestine, the mucosa was also swollen and deep red, but it was covered only here and there by a tenacious, friable membrane, which, when pulled away, left an ulcerated surface.

The kidneys were identical in appearance, and each weighed 130 gm. They were swollen. As the capsule was cut, it everted, denoting the increased size of the organ. The capsule peeled off easily, leaving a uniform, dark red, smooth cortex. The tissue was very vascular. The cortex averaged 5 mm. in depth. The striations were indistinct, and the entire cut surface had the appearance of extreme cloudy swelling.

* From the Brady Laboratory of Pathology and Bacteriology, Yale University School of Medicine.

On microscopic examination, the lesions of the grossly involved portions of the intestines varied in severity, but were essentially of the same nature. In the lower jejunum and the upper ileum, edema and congestion were marked, but only the most superficial cells of the lining epithelium were necrotic. There was no acute inflammatory exudate present. In the lower ileum and the colon, necrosis became prominent. The necrotic, but adherent, epithelium was infiltrated with polymorphonuclears, and was coated with a membrane made up of cellular débris, fibrin and intestinal contents. In addition to the necrosis of the major part of the epithelium, there were large, ulcerated areas extending down to the muscularis mucosae. Beneath these ulcerations, the polymorphonuclear infiltration was most extensive.

In the kidneys, the most prominent changes occurred in the tubular epithelium. A great many of the cells lining the collecting and convoluted tubules and loops of Henle were swollen and extensively vacuolated, and either were without nuclei or had faintly staining nuclei. There was marked congestion of all the vessels. Edema of the interstitial tissue was not marked. No calcium deposits were seen.

The findings in the intestines and kidneys resembled so closely the lesions characteristic in mercury poisoning, that a more detailed investigation of the clinical history was made. It was then ascertained that, during the operation, a 1 per cent. solution of meroxyl[1] was used extensively to swab out the wound surface. The exact amount of this germicide used is not known. Furthermore, as previously stated, during the unusually long state of postoperative collapse, there were many loose, involuntary stools. The exact number, and whether or not blood and mucus were present, could not be learned. There was no history of anuria or stomatitis.

With this knowledge it was decided to examine the organs for mercury. Through the cooperation of the department of pharmacology and toxicology, Dr. C. S. Leonard examined the tissues, with the result that mercury was easily demonstrable in the kidneys, but was present to a much less extent in the intestinal tissue.

With the case completed, the following anatomic diagnosis was made:

Primary: Scoliosis; emaciation; recent operation (fasciotomy); necrotizing enterocolitis (mercury poisoning); epithelial necrosis of the kidneys (mercury poisoning).

Subsidiary: Healed bronchiectasis; pulmonary atelectasis; fibrous pleurisy, perihepatitis and perisplenitis; renal calculus.

TREATMENT OF BURNS

GUSTAV A. PAGENSTECHER, M.D., SAN ANTONIO, TEXAS

The treatment of extensive second and third degree burns has taken on a new turn since the work of Cannon[2] and Willis.[3] The new procedures are destined to reduce mortality, reduce damage to internal viscera due to absorption of protein toxin of slough, alleviate pain, shorten convalescence, reduce the necessity of doing skin grafts, and prevent contractures.

The primary procedure is to remove the entire burned area with a sharp knife, the débridement extending down to healthy tissue. All bleeding points are stopped by ligature, and the oozing is stopped by applying a saturated alcoholic solution of picric acid to the surface. In addition to the hemostatic effect, the picric acid combats any skin infection that may be present. The entire procedure is done under gas anesthesia, this causing less shock, and no preliminary morphin is given. The latter is avoided because it has a deleterious and depressing effect on the excretory organs of the body.

The patient is next placed under a cradle and is kept very warm by means of electric lamps, the temperature ranging from 90 to 95 F. The entire wound surface is covered daily with five layers of gauze soaked in twice normal salt solution. The gauze is kept continuously moist with a rectal drip of the same solution.

The patient is filled with water; if drinking, from 4,000 to 5,000 c.c. of water is given in twenty-four hours; or, if hypodermoclysis is used, from 2,000 to 3,000 c.c. is given, and from 6 to 8 ounces (180 to 235 c.c.) is given by proctoclysis every three hours. I give the plain tap water, feeling that it is more easily absorbed, that the water is more easily gotten rid of by the kidneys, and that the hypertonic saline dressing is more easily able to cause an extensive exudation of serum.

This flushing of the kidneys and the exudation of the wound causes a great removal of poisons from the circulation.

The wet dressings allow the delicate epithelium to grow very rapidly. It seems to grow out from the sweat glands, and in three weeks the wound is covered with epidermis. The pain is reduced to a minimum, and the patient seems very comfortable under the treatment.

City National Bank Building.

1. Meroxyl is a mercurial germicide described by Young, H. H.; White, E. C., and Hill, J. H.: Surg., Gynec. & Obst. **36**: 508-521 (April) 1923, and in New and Nonofficial Remedies.
2. Cannon, W. B.: Studies in Experimental Traumatic Shock, Arch. Surg. **4**: 1 (Jan.) 1922.
3. Willis, A. M.: Surg., Gynec. & Obst. **33**: 355 (Oct.) 1921.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

STOVARSOL.—Acetylaminohydroxyphenylarsonic Acid.—$HO.CH_3CONH.C_6H_3As:O:(OH)_2$.—The acetyl derivative of 3-amino-4-hydroxyphenyl-1-arsonic acid.—Stovarsol contains from 27.1 to 27.4 per cent. of arsenic (As).

Actions and Uses.—Stovarsol has been reported to produce favorable effects in the treatment of amebic dysentery. It is claimed to yield satisfactory results both in the eradication of dysenteriae cysts and encysted flagellates, and for general amebic dysentery. Stovarsol is not proposed for the treatment of syphilis, and its use in amebic infections is still in the experimental stage.

Dosage.—Orally, 0.25 Gm. for adults; two or three doses a day for a period of seven days has been reported to give satisfactory results.

Manufactured by Powers-Weightman-Rosengarten Co., Philadelphia, under license of Les Etablissements Poulenc Frères, Paris. No U. S. patent. U. S. trademark 177,082.

Stovarsol Tablets 0.25 Gm.

Stovarsol is a white, odorless powder, having a slightly acid taste. It is slightly soluble in water and alcohol; readily soluble in solutions of alkalis or alkaline carbonates. It is stable at ordinary temperatures.

To a solution of 1 Gm. of Stovarsol in 10 Cc. of sodium hydroxide solution and 10 Cc. of water, add 2 Gm. of sodium hydrosulphite and warm the mixture to about 40 C.; a light yellow precipitate is formed, which is soluble in an excess of sodium hydroxide. To a solution of 0.5 Gm. of Stovarsol in 10 Cc. of water and a slight excess of ammonia water, add magnesia mixture; no precipitate forms (*absence of inorganic arsenates*); but on heating the mixture for some time, a precipitate is produced. Dissolve 1 Gm. of Stovarsol in 10 Cc. of sodium carbonate solution; no undissolved residue remains. To 1 Gm. of Stovarsol add 10 Cc. of hydrochloric acid (5 per cent.), shake well and filter. To the filtrate add two drops of solution of potassium bichromate (3 per cent.); no red or brown color is produced (*unacetylized amino-acids*). Shake 0.5 Gm. of Stovarsol with 10 Cc. of nitric acid for five minutes, and then filter; the filtrate becomes at most slightly turbid on the addition of a few drops of silver nitrate solution. Incinerate 0.5 Gm. of Stovarsol; not more than 0.2 per cent. of residue remains. Dry a weighed quantity of Stovarsol to constant weight at 100 C.; the loss does not exceed 0.5 per cent.

Determine the arsenic content of Stovarsol by Lehmann's method; the arsenic content corresponds to from 27.1 to 27.4 per cent.

INSULIN (See New and Nonofficial Remedies, 1925, p. 171).

Insulin-Mulford.—A brand of insulin.

Manufactured by H. K. Mulford Co. under license from the Governors of the University of Toronto.

Insulin-Mulford 10 Units, 5 Cc.: Each Cc. contains 10 units.
Insulin-Mulford 20 Units, 5 Cc.: Each Cc. contains 20 units.
Insulin-Mulford 40 Units, 5 Cc.: Each Cc. contains 40 units.

Beef pancreas is rendered as free from fat and connective tissue as possible, and extracted with acidulated 60 per cent. alcohol. The mixture is centrifugalized and the gland residue reextracted with 60 per cent. alcohol. The alcoholic liquid is then concentrated to about one-twelfth its original volume. The active substance is then precipitated with ammonium sulphate, and reprecipitated from an alcoholic solution. It is further purified by a method of iso-electric precipitation and is finally dissolved in acid water (p_H 2.5) and preserved by the addition of 0.1 per cent. cresol. It is then filtered through a Berkefeld filter, and submitted to potency and sterility tests.

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SATURDAY, JUNE 20, 1925

RECENT PROGRESS IN THE EXPERIMENTAL PRODUCTION OF CANCER

The experimental production of cancer through protracted chemical stimulation of tissue growth and repair is now one of the most zealously pursued fields of cancer research. Since Yamagiwa and Ichikawa, in 1915, described their successful production of carcinoma in the ears of rabbits at the site of epithelial overgrowths induced by repeatedly painting with gas-works tar, the process has been applied successfully to other animals, especially to mice, but also occasionally to rats, guinea-pigs and fowls. Furthermore, in addition to the squamous cell carcinomas of the rabbits' ears, numerous other sorts of tumors have been produced, including sarcomas in rabbits, mice, rats and fowls; mixed tumors, apparently carcino-sarcomas, in rabbits and mice; myxofibrosarcoma in the mammary gland of rabbits; mammary gland carcinoma in rabbits and mice; carcinoma in the lung following injection or insufflation of tar in rabbits and guinea-pigs; carcinoma of the gallbladder in guinea-pigs; adenoma of the stomach in rabbits, and carcinoma of the stomach in rats.[1] The frequency with which malignant growths have been produced experimentally in rabbits and guinea-pigs is especially convincing evidence that the neoplasms have resulted from the experimental procedure, since in these two species spontaneous cancers are rarely seen.

Whatever doubts may have been held at first as to the true malignant neoplastic character of these growths have been removed by increased knowledge of their character and behavior. Not only are they histologically and clinically true carcinomas and sarcomas, with infiltrative tendency, but they often produce typical, sometimes numerous, metastatic growths, and they may be transplanted from animal to animal. Corresponding with the behavior of human cancer, these experimental growths do not appear usually until three or more months of application of the tar, which is a relatively long time in the lives of these small laboratory animals, and may be compared with the periods of several years that are usually required to bring about dye workers' cancer of the bladder, or roentgen-ray cancer of the skin.

Certainly the production of cancer by chemical stimulation is not a property exhibited exclusively by tar, as is known not only from the history of dye workers' cancer or betel nut cancer in man, but also through the experimental production of cancer in animals with arsenic and other chemical agents. Apparently, tar produces cancer in man and animals with particular readiness because it happens to possess sufficient stimulating effect on cell growth with not too great a necrotizing effect, and hence under repeated application the maximal amount of cell proliferation is produced. That it is the chemical rather than the mechanical stimulation of the tar is shown by the fact that mechanical irritation by coal dust does not produce cancer, whereas soot and coal tar with little or no mechanical irritation do produce cancer. Different tars seem to differ in their cancerogenic effect, gas-works tar being more likely to produce cancer in man than either shale oil or crude petroleum, while blast-furnace tar seems to be inactive.[2] There seems to be no evidence, either clinical or experimental, that pure paraffin, or oils rich in paraffins, produce cancer, a fact of importance in view of the widespread therapeutic and industrial use of such oils, and Kennaway[3] considers the term "paraffin cancer" to be a misnomer. English observers report that gas-works pitch produces more cases of tar cancer than all other related materials combined, an especially large number of cases having been observed in the briquette industry.

Naturally, the active agent has been sought in the tars that produce cancer. The acids and bases can all be removed from the tar without destroying its activity, and the principle seems to be removed by ether extraction, and to be present in the fraction of tar boiling at about 500 C. As yet no pure substance that may be isolated from this high-boiling fraction, such as anthracene, has been obtained that will produce cancer, but crude anthracene oil and creosote oil are active, so that presumably some unidentified substance or substances, present in small quantities, is the active agent. The nearest approach to detecting this agent seems to have been made by Kennaway,[4] who found that condensation products of isoprene, which contains only carbon and hydrogen, is even more active than crude coal tar. It is of some significance that the active agents are fat soluble, since this property seems to be responsible for so many important pharmacologic and biologic effects, including the production of inflammation.[5] Also, the fact that the same agents may produce either sarcoma or carcinoma indicates that fundamentally these two types of malignancy are one and the same.

1. Yamagiwa: J. Cancer Res. 8: 119, 1924; Gann 18: 1, 1924.

2. Cookson, H. A.: Brit. M. J. 1: 368 (March) 1924.
3. Kennaway, E. L.: J. Indust. Hyg. 5: 462 (April) 1924.
4. Kennaway, E. L.: J. Path. & Bacteriol. 27: 233 (July) 1924.
5. Wolf, E. P.: J. Exper. Med. 37: 511 (April) 1923.

A new application of this method to the problem of the transmissible sarcomas of fowls is of particular interest. These tumors have been of great importance in all considerations of the causation of cancer, since they suggest the possibility that malignant growths may depend on some living virus, whereas most of the experimental evidence on the causation of cancer points to directly opposite conclusions. Peyton Rous made the observation in 1911 that filtrates obtained from these growths in fowls were capable of producing new growths of similar character when injected into other fowls, despite the fact that these filtrates were bacteriologically sterile and free from any tumor cells or recognizable fragments of such cells. It was also found that such tumor tissue could be dried, kept as a powder for a long time, and still be capable of producing the disease when injected into fowls. As yet, no final agreement has been reached concerning the explanation of this remarkable divergence from all that has been found to be characteristic of transplantable mammalian neoplasms. As far as gross and microscopic structure and clinical behavior go, these chicken sarcomas are just as typical sarcomas as one ever sees in man or other animals, but a loophole exists that is employed by those unwilling to consider the possibility of a cancer virus; namely, the great difficulty of differentiating sarcomas from chronic granulomas, and also our lack of knowledge concerning avian diseases. Nevertheless, these growths seem to be as true sarcomas as we have in any other species of animals. For lack of any evidence to the contrary, Rous has been inclined to interpret the evidence as indicating that the causative agents are in the nature of filter-passing organisms. Other authors have suggested that there is a substance produced by the tumor cells and causing the malignant transformation of other cells, in a manner analogous to the action of the d'Herelle bacteriophage, which produces changes in the bacteria with which it is associated, appears to multiply in such association, and is transmitted to subsequent generations. For some time this important problem has been somewhat neglected, apparently for lack of any promising new leads; but Murphy and Landsteiner [6] have undertaken to engender in chickens a malignant tumor by artificial means and to investigate whether or not such a tumor would contain a filtrable agent capable of transmitting the tumor. They injected tar extract along with hashed up chicken embryos into the breast muscle of fowls, and reinjected the tar into the resulting "embryomas" at intervals. Two chickens developed typical sarcomas after five months; and, from one of these, successful transplantations were made into other fowls. With the materials so obtained, filtration and desiccation experiments were made according to the methods that have given positive evidence of a filter-passing agent with spontaneous tumors of chickens, but all the results were negative in ninety-two experiments. As far as may be determined from this single series of observations, a filtrable virus seems not to be an essential agent in the production of sarcomas or sarcoma-like growths in chickens. Possibly we may have to conclude, if further experiments give the same results, that the tissues of chickens are capable of responding to more than one sort of stimulating agent, with the production of connective tissue overgrowths of malignant character, and that in nature this stimulation is often produced by filtrable viruses. On this basis, such chicken sarcomas resemble malignant growths arising in tuberculous or syphilitic lesions in man, being the sequel of an infection, but not the product of a specific cancer virus.

6. Murphy and Landsteiner: J. Exper. Med. **41**: 807 (June) 1925.

THE SIZE OF THE PROTEIN MOLECULE

The chemist and the biologist have attached a mysterious dignity to the proteins ever since these compounds were recognized as distinct components of living matter. The very name proteins was selected by Mulder nearly a century ago to indicate their primary importance. Even before those details of structure were known that represent the molecule as a complex of eighteen or more amino-acids united into an elaborate polypeptid arrangement, the unusually large size of the molecular units had impressed itself on students of the albuminous compounds. This characteristic seems to endow them with a sort of sluggishness in reaction and a stability that adapts them to become part of the fundamental structure of cells.

A recent writer [1] has remarked that the large molecular weights of the proteins must be considered one of their outstanding characteristics, in great part responsible for such colloidal aspects of their behavior as their failure to pass through many natural and artificial membranes. It is probably because of their size that proteins are retained by cell walls through which their component parts and their decomposition products freely pass. The cellular structure of biologic systems, and their stability under changing metabolic conditions, depend, therefore, on the separation and the concentration of large organic molecules within limiting membranes. The molecular size of some of the better defined proteins, notably the crystallizable hemoglobin of the blood, has long been evaluated at figures that make even the complex fats and sugars shrink into comparative insignificance. E. J. Cohn [1] of the Harvard Medical School has lately made a critical study of the problem, taking into account the newer physicochemical and analytic information. As a result, the minimal molecular weights of a number of well characterized proteins are estimated to range from 10,300, for gelatin, to 192,000, for casein. The familiar egg albumin is

1. Cohn, E. J.; Hendry, J. L., and Prentiss, A. M.: Studies in the Physical Chemistry of the Proteins, V, The Molecular Weights of the Proteins, Part 1, The Minimal Molecular Weights of Certain Proteins, J. Biol. Chem. **63**: 721 (April) 1925.

rated to have a molecular size of 33,800, serum albumin and globulin being given as 45,000 and 81,000, respectively. In the contemplation of such figures, one can readily appreciate why water, with its molecular weight of 18, represents something more labile and mobile, better adapted to function as an almost universal solvent.

On the other hand, what mysterious potencies may not be bound up in such great molecular complexes of the proteins? The average molecular weight of one of the component amino-acid groups is less than 200; consequently, even the simplest of proteins must yield many of them. This fact makes possible the existence of many isomers having the same molecular weight and yielding the same amino-acids but differing only in the arrangement of the latter in the aggregates that they build up. Specificity may be concerned with such isomerisms, so that the superficially similar blood or tissue proteins of one species may vary from those of another only with respect to their molecular configuration. As Mathews [2] has stated, the number of amino-acids is so great that by modifying the proportions of those present in different proteins, or by modifying the arrangement of them in the molecule, or by the introduction of optical isomers, practically an indefinite number of combinations is possible. It is this great diversity, he adds, combined of course with the diversity in the fats and carbohydrates, that has made possible the existence of the large number of different kinds of organisms on the earth.

TISSUE CULTURE

The announcement [3] in THE JOURNAL of the successful cultivation of adult mammalian tissues was considered the beginning of an epoch; the development of tissue culture during the last fifteen years has borne out the promise of that earlier demonstration. The first technic was crude: a fragment of tissue, a drop of lymph or serum, a hanging drop in a hollow sealed slide, in which the tissues grew. In surviving under these conditions, the new cells were subjected to influences of cells of other types and to a medium that deteriorated in a short time. The technic has been improved until now strains of cells grow in mediums of almost unvarying composition. Pure strains of fibroblasts can be obtained from practically every tissue of various animals. Cultures that have proliferated over a long period have been used to detect in certain fluids the substances that promote or inhibit cell multiplication. For years, however, attempts to isolate pure strains of epithelium were unsuccessful. Fibroblasts, which were always present, grew at greater speed and eventually killed the epithelium. Finally, Fischer succeeded in growing a strain of epithelium and found it easy to keep the strain active. Ebeling's strain of epithelium, after more than a year, lost none of its characteristics or activity.

The first technic of tissue culture was laborious. It required removing the tissue frequently from the medium, washing in Ringer's solution, and transferring to fresh medium. The new technic permits renewal of the medium without much disturbance, and special flasks and instruments have been provided with which to handle the tissues.

Carrel [4] found early that the multiplication of embryonic tissues occurred as readily in salt solution as in serum. He concluded that the cells feed, not on constituents of the serum, but on substances in the tissue. Experiments definitely proved, he says, that epithelium and fibroblasts do not make protoplasm in vitro from the nitrogenous constituents of serum, plasma, bouillon or amino-acids, and that in such mediums the cells are in a condition only of survival and not of cultivation. They are in a state of cultivation only when embryonic tissue juices are present in the medium. Macrophages behave differently, being active at first when cultivated in embryonic tissue juices, but they soon die. If, however, the medium is composed of dilute serum, macrophages grow for a considerable time. It seems that they build up protoplasm from constituents of the serum. Carrel concludes from these and other observations that the nitrogenous compounds required for the synthesis of protoplasm vary with the nature of the cells.

The substance in embryonic tissue juice used by the tissues to build protoplasm is still unknown. Embryonic juice loses its growth-promoting properties after being shaken for several hours or heated to 65 C. for a few minutes. The growth-promoting substances, which Carrel called "trephones," disappear entirely after filtration through Chamberland filters, and precipitation by alcohol and other substances shows that they always remain with the protein precipitate. Attempts at their isolation, however, have consistently failed.

Leukocytes cultivated in vitro secrete substances having the same growth-activating power as embryonic juices, and extracts of inflamed connective tissue and a peritoneal exudate containing leukocytes increase the rate of proliferation of fibroblasts. It seems that leukocytes in the organism can set free growth-promoting substances which they manufacture. Contrary to the early experiments of others, Carrel found that epithelial cells in tissue cultures maintain their essential characteristics over a long period. A strain of epithelium from the iris not only grew as a pavement membrane for more than a year but also secreted a large amount of pigment.

The technic of tissue culture has for some time been applied to physiologic investigation. Great interest

2. Mathews, A. P.: Physiological Chemistry, New York, William Wood & Co., 1920.

3. Carrel, Alexis; and Burrows, M. T.: Cultivation of Adult Tissues and Organs Outside the Body, J. A. M. A. 55: 1379 (Oct. 15) 1910.

4. Carrel, Alexis: Tissue Cultures and Cell Physiology, Physiol. Rev. 4: 1 (Jan.) 1924.

recently has been aroused by the isolation by Ebeling [5] of a pure culture of thyroid cells. Ebeling's strain seems to multiply indefinitely, and the lumina of the acini contain colloid that is morphologically similar to colloid from a fresh thyroid gland. As may be seen, tissue culture is still an infant, but one with remarkable powers of growth. Indeed, it seems safe to predict that developments may soon occur whereby secretions of the thyroid and other glands will be produced in vitro in amounts that will permit their physiologic and chemical study.

Current Comment

POISON MYSTERIES

Medical toxicology has always offered a fruitful field for the development of mysteries. The subtle ways in which poisons can be disseminated either by accident or by nefarious intent frequently baffle the ingenuity of the keenest investigator. Some of the wildest tales of poison lore in fiction can be matched by the unique intricacies of the actual known phenomena of toxic substances. No sooner has the menace of one kind of intoxication been averted or its dangers mastered than another, which may be even more tenuous, makes its insidious appearance. Sometimes the threatened evil is a mere bogy, like the assumed "toxin" of the air vitiated by large groups of persons in confined spaces. Often it is something real and portentous, as in the case of the carbon monoxid and perhaps the lead compounds that the automobile exhaust has thrust on us. Arsenic has probably excelled in the length of its nefarious history as a producer of poison mysteries; and for many years it was most likely to become the object of suspicion in times of stress. Recall, for example, the evolution of the volatile arsenical compound arsin from wall-papers that were decorated with arsenical pigments. More than once the mere transfer of an affected person from one room to another, with the simultaneous change in the wall-paper of the environment, has brought about immediate and marked improvement in health. The "epidemic" of arsenical poisoning in Manchester, England, following the consumption of beer accidentally contaminated with arsenic through a strange sequence of circumstances is still fresh in the memory of some of our readers. The menace that involved several thousands of persons, of whom at least seventy died, arose through the use of "brewing sugars," mostly glucose, that unexpectedly derived their arsenical contamination from impure acid used in the hydrolysis of starch to form the sugar. Equally strange is the recent report [6] of mysterious sickness in eastern Prussia, where the cellulose factories have been sending their waste waters containing arsenic into the Haff River. Certain fungi that grow abundantly in the mud send forth arsenic-containing gases similar to the development of arsenical gases from certain moldy wall-papers. Recently, these factories have been using the so-called Riotinto pyrites from Spain for the preparation of sulphurous acid. The mineral contains more arsenic than the Norwegian pyrites, which was used until the past year. The reporter states that in earlier times the Haff at this point was filled with fresh water; but now, owing to the change in the Nogat River, it contains brackish water. Certain decomposition actions proceed very differently in fresh water than in salt water, by which the formation of the harmful volatile poison is favored. Even in these days of superior preventive medicine, we cannot relegate the toxicologist to professional inactivity.

5. Ebeling, Albert: Pure Strain of Thyroid Cells and Its Characteristics, J. Exper. Med. 41: 337 (March) 1925.
6. Indust. & Engin. Chem., News Edition, April 20, 1925, p. 6.

METABOLISM IN RENAL GLYCOSURIA

When conditions of food intake are so selected that the body is compelled to consume carbohydrate in its metabolism, the result is indicated by a characteristic rise in the respiratory quotient. For the oxidation of sugar this ratio approximates 1, whereas the quotient for the usual basal metabolism is about 0.8. Consequently, when a meal of sugar is given after such a basal metabolism test, the prompt preferential utilization of the carbohydrate is indicated by a noteworthy rise in the respiratory quotient. This is not usually the case, however, in diabetic persons. In mild diabetes there are indications that the effects of food are much the same as in health. But it has long been realized that the administration of carbohydrate in this disease can raise the respiratory quotient to a certain level only. Any excess of carbohydrate above the limit of tolerance is prone to be excreted rather than oxidized. The prognosis of the type of glycosuria occasionally referred to as renal diabetes has been much debated. It has been suggested by some writers that many of the patients represent a kind of potential diabetes mellitus despite the absence of hyperglycemia and other symptoms of defective sugar metabolism. Some clue to possible underlying disturbances in the metabolism might be secured through a study of the response of patients with renal glycosuria to large doses of carbohydrate. The answers already secured are quite suggestive. Finley and Rabinowitch [1] noted the effect of the ingestion of glucose on the respiratory quotient, and found a sharp rise to a maximum of 0.92, indicating marked increase in the oxidation of carbohydrate. Similarly, Ladd and Richardson [2] have observed that a patient with renal glycosuria was able to utilize carbohydrate to the same extent as a normal person. In other words, a moderate degree of permeability of the kidney to glucose can occur without any demonstrable defect in the oxidation of carbohydrate. In such tested cases, at least, the renal glycosuria cannot be regarded as a preliminary stage or premonitory of diabetes mellitus. However, in view of the various resemblances between the disorders under consideration, Joslin [3] has insisted that a diagnosis of renal glycosuria is dangerous unless the element of time is added to the four other cardinal requirements;

1. Finley, F. G., and Rabinowitch, I. M.: Renal Glycosuria: A Clinical and Metabolic Study, Quart. J. Med. 17: 260 (April) 1924.
2. Ladd, W. S., and Richardson, H. B.: Clinical Calorimetry, XXXVIII. The Utilization of Carbohydrate in a Case of Renal Glycosuria, J. Biol. Chem. 63: 681 (April) 1925.
3. Joslin, E. P.: Treatment of Diabetes Mellitus, Philadelphia, Lea & Febiger, 1923.

namely, a persistent glycosuria that is relatively independent of diet, and the absence of hyperglycemia as well as of the symptoms of diabetes.

McCANN NIPS ANOTHER PLOT

Some weeks ago, an article appeared in the Propaganda Department of THE JOURNAL on a food product advertised by "patent medicine" methods—"Whole Grain Wheat." This proprietary form of a well known food substance is exploited essentially as a cure-all. It is claimed that by its use cancer, tuberculosis, Bright's disease, colitis, asthma, paralysis, epilepsy, insanity, sterility and numerous other conditions have been cured. It is recommended for obesity and for underweight. The testimonials are worthy of Lydia Pinkham. These facts were brought out in THE JOURNAL'S article. Mention was also made of the fact that chemical and animal experiments conducted in the laboratories of the American Institute of Baking showed, as might have been expected, that Whole Grain Wheat was not a complete food, and that rats put on a Whole Grain Wheat ration lost weight and died or came near death, while rats fed on white bread made with whole milk thrived. The sum and substance of THE JOURNAL'S article was to the effect that Whole Grain Wheat, while a meritorious food product, was not the cure-all that was claimed for it by its manufacturers, nor even a complete food. Now comes Alfred W. McCann with the charge that THE JOURNAL'S article on Whole Grain Wheat is part of a plot to "boost white bread." Mr. McCann, an alleged "food expert," is strong on plots. This is the same McCann who some months ago charged that there was a plot on the part of the New York Tuberculosis Association, New York Health Commission or the American Medical Association to keep from the medical profession and the public information regarding a marvelous treatment for consumption that, apparently, had recently come to McCann's attention. At that time McCann dubbed the American Medical Association "an arbitrary, dictatorial, dogmatic, orthodox hierarchy"—and Mr. McCann dislikes hierarchies, at least medical hierarchies. The mare's nest at that time turned out to be the old discredited nostrums, "Russell Prepared Green Bone" and the "Russell Emulsion," both of which have been exploited for years on the basis of the so-called lime starvation theory as the cause of tuberculosis. Wonderful things was McCann going to do in the way of establishing clinics for the tuberculous where they could get cured in spite of the deep, dark plot on the part of the American Medical Association to keep this marvelous remedy from the public. Then something happened and McCann and the paper he worked for separated. Now Russell's Emulsion seems to have been abandoned for Whole Grain Wheat! As was stated at the time, McCann is wild enough when he confines himself to a discussion of food problems. In therapeutics he is hopeless! In his present diatribes he ignores entirely the nub of THE JOURNAL'S article, quackery in the exploitation of Whole Grain Wheat, and devotes himself exclusively to panegyrics on the undisputed wholesomeness of Whole Grain Wheat. McCann was originally an advertising man, graduating from work of this kind in a department store into the advertising department of a food concern. Later he appears as a "food expert." He seems to be a strong proponent of the various food fads that are on the market, and the food faddists are good advertisers. Is it possible that these facts have any bearing on Mr. McCann's present philippics?

NATAL AND POSTNATAL MORTALITY IN AUSTRALIA

Recent studies of infant deaths in southern Australia show the same causative factors at work there as are noted in this country. About the same proportion of the babies born alive die of respiratory diseases, of gastro-intestinal affections, of malformations, and of other causes. The lowering of infant mortality in Australia has likewise been due almost wholly to the reduction of gastro-intestinal diseases, with a poor showing for respiratory infections. Nor do the deaths in the first month of life show a falling off. The distinction in the mode of preventing deaths in this group as compared with deaths after the first month prompts Hone [1] to suggest that we cease writing about infant mortality and refer instead to birth or natal mortality and to postnatal mortality. The classification of diarrheal deaths, he urges, should divide those that are toxemic (due to improper diet) and those that are infective. Since the natal deaths have not decreased, there is reason to believe that no great discrepancy has entered the statistics as the result of improved methods of birth registration. In the cases of 300 still-born fetuses, Hone found that 133 were macerated and 167 "fresh." Of the latter, 48 per cent. showed tears of the dura. In all cases of breech presentation resulting in stillbirth of a nonmacerated fetus, dural tears were found. The great causes of death within the first month were prematurity, congenital debility, malformations and accidents of childbirth. Further analysis shows that about half of these deaths may be considered preventable. The most promising avenues of attack are, apparently, first, the prevention of complications of labor, including antepartum hemorrhage and postmaturity of the fetus; second, syphilis, and third, the toxemias of pregnancy.

ERNEST HAROLD BAYNES MEMORIAL

When Ernest Harold Baynes died at his home in Meriden, N. H., last January, scientific medicine lost one of its greatest friends. He was great not only in the spirit with which he combated the fanatical charges of antivivisection propaganda, but great also in his ability to tell the facts about animal experimentation in such a manner as to win numerous friends for the cause among the public. It is fitting, therefore, that a committee of noted educators and scientists headed by Dr. W. W. Keen, who has led organizations for many distinguished causes, should now propose under

1. Hone, F. S.: The Present Position of Infantile Mortality, M. J. Australia 1: 443 (May 2) 1925.

the name of the Ernest Harold Baynes Memorial to establish a fund of $100,000 to be devoted largely to the work of the American Association for Medical Progress, and at the same time to provide for the care of Mrs. Baynes until her death. The American Association for Medical Progress was organized with the help of Mr. Baynes to disseminate the truth concerning the value of scientific medicine. The committee contains the names of such educators as Charles W. Eliot and Dr. Ray Lyman Wilbur; of such philanthropists as Mrs. Edith Rockefeller McCormick; of scientists such as Dr. Walter B. Cannon, Dr. William H. Welch and Dr. William J. Mayo; of lovers of animals such as Carl Akeley, Ernest Thompson Seton and Wilfred H. Osgood, and many other famous physicians and laymen. The memorial is one that merits the support of every physician who wishes to recognize the service of Ernest Harold Baynes and at the same time to benefit the cause of experimental medicine.[1]

Association News

THE ATLANTIC CITY SESSION

Minutes of the Section on Preventive and Industrial Medicine and Public Health

WEDNESDAY, MAY 27—MORNING

The meeting was called to order at 9:20 by the chairman, Dr. Oscar Dowling, Shreveport, La.

Dr. W. H. Lipman, Chicago, read a paper on "Meat Inspection as a Public Health Measure." Discussed by Drs. Thomas Castor, Philadelphia; George M. Kober, Washington, D. C.; Oscar Dowling, Shreveport, La., and W. H. Lipman, Chicago.

Dr. Linsly R. Williams, New York, read a paper on "The Correlation of Federal Health Agencies." Discussed by Drs. John E. Monger, Columbus, Ohio; W. S. Leathers, Nashville, Tenn.; Arthur T. McCormack, Louisville, Ky., and Haven Emerson, New York.

Dr. Haven Emerson, New York, presented the following resolution, which was seconded and carried and turned over to Dr. W. S. Leathers to be presented to the House of Delegates:

Resolved, That the Section on Preventive and Industrial Medicine and Public Health request the Board of Trustees of the American Medical Association to appoint a committee to cooperate with other groups, lay or professional, which may have as their objective the central direction of and responsibility for all the health activities of the federal government.

The discussion on Dr. Williams' paper was continued by Drs. George M. Kober, Washington, D. C.; Oscar Dowling, Shreveport, La.; S. W. Welch, Montgomery, Ala., and L. R. Williams, New York.

Dr. Oscar Dowling, Shreveport, La., read the chairman's address, entitled "Three Great National Health Problems."

Dr. W. H. Park, New York, read a paper on "The Uses of the Scarlet Fever Streptococcus Toxin and Antitoxin in the Diagnosis, Prevention and Cure of Scarlet Fever." Discussed by Drs. Abraham Zingher, New York; W. H. Welch, Baltimore; Matthias Nicoll, Jr., Albany, N. Y., and W. H. Park, New York.

Dr. A. T. McCormack, Louisville, Ky., moved a rising vote of thanks to Dr. Haggard for his happy phrasing of the work of preventive medicine in his presidential address. A unanimous rising vote of thanks was tendered Dr. Haggard.

Dr. Matthias Nicoll, Jr., Albany, N. Y., read a paper on "Some Problems in State Public Health Administration." Discussed by Drs. A. J. Chesley, Minneapolis; John A. Ferrell, New York; J. A. Hayne, Columbia, S. C.; John E. Monger, Columbus, Ohio; Arthur T. McCormack, Louisville, Ky., and Matthias Nicholl, Jr., Albany, N. Y.

Dr. S. W. Welch, Montgomery, Ala., read a paper on "A Typhoid Carrier Survey of the Dairy Industry in Alabama." Discussed by Drs. Seneca Egbert, Wayne, Pa.; George M. Kober, Washington, D. C.; W. H. Seemann, New Orleans; A. J. Chesley, Minneapolis; A. T. McCormack, Louisville, Ky., and S. W. Welch, Montgomery, Ala.

Dr. W. H. Lipman, Chicago, exhibited a motion picture illustrating the Royal Purple Seal of Meat Inspection as a Public Health Measure.

Dr. A. T. McCormack, Louisville, Ky., moved that a committee of three be appointed to prepare a memorial to be presented by the delegate of the section to the House of Delegates, with a view to spreading on the records of the American Medical Association and through its proceedings to secure public attention to the unfortunate loss of Dr. Darling.

Motion seconded and unanimously carried.

THURSDAY, MAY 28—MORNING

The meeting was called to order at 9:15 by the chairman.

Dr. B. J. Lloyd, Washington, D. C., read a paper on "Plague: Past, Present and Future." Discussed by Drs. F. M. Johns, New Orleans; W. H. Seemann, New Orleans; Matthias Nicoll, Jr., Albany, N. Y.; Emery R. Hayhurst, Columbus, Ohio, and B. J. Lloyd, Washington, D. C.

Dr. Frank H. Richardson, Brooklyn, read a paper on "Universalizing Breast Feeding in the Community." Discussed by Drs. Matthias Nicoll, Jr., Albany, N. Y.; Robert A. Strong, Hagerstown, Md.; Julius Levy, New York, and Frank H. Richardson, Brooklyn.

Surg.-Gen. Hugh S. Cumming, Washington, D. C., addressed the section.

Dr. W. S. Leathers, Nashville, Tenn., delegate of the section to the House of Delegates, requested the motion made by Dr. Haven Emerson, New York, to the effect that this section "request the Board of Trustees of the American Medical Association to appoint a committee to cooperate with other groups, lay or professional, which may have as their objective the central direction of and responsibility for all the health activities of the federal government," be annulled, giving his reasons therefore.

Dr. Leathers moved to reconsider the motion, which was seconded by Dr. S. W. Welch, Montgomery, Ala., and carried. Dr. Leathers then made a motion to annul Dr. Emerson's motion. On motion, duly seconded and carried, Dr. Emerson's motion was annulled.

Dr. Louis I. Harris, New York, read a paper on "Problems of Current Interest in the Control of Communicable Diseases." Discussed by Drs. Herman N. Bundesen, Chicago; M. J. Fine, Newark, N. J.; Arthur D. Knott, Accomac, Va.; W. F. Draper, Washington, D. C., and Louis I. Harris, New York.

The committee appointed to prepare a resolution on the death of Dr. Darling reported, the secretary reading the report, which on motion was adopted.

Dr. S. W. Welch, Montgomery, Ala., called attention to the death of Dr. John N. Hurty, for so many years health officer of Indiana, and moved that the section rise and stand a minute out of respect to this splendid man who did so much pioneer work.

Dr. Herman N. Bundesen, Chicago, seconded the motion.

The members of the section arose and stood out of respect to Dr. Hurty.

The chairman requested that the secretary communicate this tribute to Mrs. Hurty.

Dr. Don M. Griswold, Iowa City, read a paper on "Epidemiologic Methods." Discussed by Drs. Louis I. Harris, New York; Alexander C. Abbott, Philadelphia, and B. Franklin Royer, Philadelphia.

Dr. John A. Ferrell, New York, read a paper on "Health in Relation to Citizenship in Urban and in Rural Communities." Discussed by Drs. W. S. Leathers, Nashville, Tenn.; F. J. Underwood, Jackson, Miss.; I. V. Hiscock, New Haven,

1. Checks should be made to the Ernest Harold Baynes Memorial and sent to George C. Lee, Jr., First National Bank, No. 426 Boylston Street, Boston, Mass.

Conn.; S. W. Welch, Montgomery, Ala.; J. A. Hayne, Columbia, S. C.; Samuel Stalberg, Atlantic City, N. J., and John A. Ferrell, New York.

FRIDAY, MAY 29—MORNING

The meeting was called to order at 9:30 by the chairman.

The following officers were elected: chairman, Dr. Matthias Nicoll, Jr., Albany, N. Y.; vice chairman, Dr. Herman N. Bundesen, Chicago; secretary, Dr. W. F. Draper, Washington, D. C.; delegate, Dr. W. S. Leathers, Nashville, Tenn.

Dr. Minas Joannides, Minneapolis, read a paper on "The Dog as a Carrier of Disease." Discussed by Drs. R. P. Batchelor, Palmerton, Pa.; E. E. Smith, New York; Henry Field Smyth, Philadelphia; William J. Hickson, Chicago; Oscar Dowling, Shreveport, La., and Minas Joannides, Minneapolis.

Dr. Herman N. Bundesen, Chicago, read a paper on "The Control of Foods Eaten Raw." Discussed by Drs. J. W. VanDerslice, Oak Park, Ill.; A. S. Hershfield, Chicago; William J. Hickson, Chicago; Louis I. Harris, New York; I. V. Hiscock, New Haven, Conn.; F. C. Johnson, New Brunswick, N. J.; A. H. Ferguson, Chicago; P. H. Hourigan, Buffalo; W. H. Seemann, New Orleans, and Herman N. Bundesen, Chicago.

Dr. C. E. A. Winslow, New Haven, Conn., read a paper on "Factory Ventilation and Industrial Dusts." Discussed by Drs. L. R. Thompson, Washington, D. C.; F. L. Hoffman, Newark, N. J.; R. D. Vreeland, Newark, N. J.; P. H. Hourigan, Buffalo; E. F. Smith, Pittsburgh, and C. E. A. Winslow, New Haven, Conn.

Dr. E. R. Hayhurst, Columbus, Ohio, read a paper on "Industrial Health Under Nonmedical Supervision." Discussed by Drs. F. L. Rector, New York; Eugene L. Fisk, New York; Amos W. Colcord, Clairton, Pa.; H. F. Smyth, Philadelphia, and E. R. Hayhurst, Columbus, Ohio.

Frederick L. Hoffman, Newark, N. J., read a paper on "Radium Necrosis?" Discussed by Dr. J. P. P. Knef, Newark, N. J., and Frederick L. Hoffman, Newark, N. J.

Dr. J. W. Schereschewsky, Boston, read a paper on "The Trend of Cancer Mortality." Discussed by Frederick L. Hoffman, Newark, N. J., and Drs. I. V. Hiscock, New Haven, Conn.; Frank Smithies, Chicago, and J. W. Schereschewsky, Boston.

GRANTS FOR THERAPEUTIC RESEARCH

Funds to defray part of the expenses of contemplated investigations in the field of therapeutics have been granted by the Therapeutic Research Committee of the Council on Pharmacy and Chemistry to the following: Dr. Montrose T. Burrows, Research Department, Barnard Free Skin and Cancer Hospital, St. Louis; Dr. Henry A. Christian, Department of Medicine, Harvard University; Dr. William S. Collens, Department of Physiology, Cornell University; Enrique E. Ecker, Ph.D., Department of Immunology, Western Reserve University; Dr. Robert A. Gesell, Department of Physiology, University of Michigan; Charles W. Greene, Ph.D., Department of Physiology and Pharmacology, University of Missouri; Dr. Paul J. Hanzlik, Department of Pharmacology, Leland Stanford University; Treat B. Johnson, Ph.D., Department of Chemistry, Yale University; Dr. Edward B. Krumbhaar, Philadelphia General Hospital; Dr. Clayton S. Smith, Department of Physiological Chemistry and Pharmacology, Ohio State University; Dr. Alfred Stengel, Medical Division, University of Pennsylvania; Dr. Arthur L. Tatum, Department of Pharmacology, University of Chicago, and Dr. Carl J. Wiggers, Department of Physiology, Western Reserve University.

Make Haste Slowly in Trying New Remedies.—The medical man who is in the habit of "trying" the latest preparation on the market is to be regarded with suspicion, for he does so too often, not with the purpose of attempting to prove the efficacy of the remedy in question, but either because he is unduly credulous or in order to impress his patients and create the belief that he is *au fait* with medical progress.—Bramwell, Edwin: *Lancet* **1**:265 (Feb. 7) 1925.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Tuberculosis Hospital Dedicated.—The Jefferson County Tuberculosis Sanatorium, 4 miles south of Birmingham, which will be maintained jointly by that city and Jefferson County, was dedicated, June 3. There are four buildings, with a capacity of eighty-six. The city and county each pledged $20,000 a year toward maintenance of the hospital, and it is practically assured, says the Birmingham *News*, that the community chest will give $40,000 a year. The $200,000 for the construction of the hospital was raised by subscription. The superintendent in charge is Dr. William H. Cryer, Deming, N. M., who has been engaged in tuberculosis work for about ten years.

COLORADO

Court Upholds State Board.—District Judge Calvert, Denver, May 23, upheld the action of the state board of medical examiners in revoking the license of Dr. John E. Doran, July 7, 1924, following a hearing, it is reported, on charges in connection with an advertisement said to contain false statements. Dr. Doran by court action obtained a review in the district court of the records of the hearing before the state board.

DISTRICT OF COLUMBIA

Chiropractor Chatfield Guilty.—A jury in the police court, June 4, returned a verdict of guilty in the case of Alonzo B. Chatfield, president of the "Chiropractic Research University," 1349 L Street, who was charged with violation of the vaccination law. A number of other members of the "university" charged with the same offense face trial. These chiropractors refused to be vaccinated following the discovery of a case of smallpox in the same building in which the "university" is located (THE JOURNAL, February 28, p. 681, March 7, p. 756, March 14, p. 823).

Georgetown's Diamond Jubilee.—Georgetown University School of Medicine celebrated its diamond jubilee, June 8, at a banquet, at which the toastmaster was Dr. James A. Gannon. Dr. George M. Kober of the class of '73 spoke on "Memories of a Jubilarian," and Rev. Patrick H. Brennan, '64, Drs. William C. Woodward, Chicago, '89, and Wilfred M. Barton, '92, Washington, D. C., spoke on the first, second and third quarter of a century, respectively. Other speakers were Asst. Surg. Gen. Walter D. McCaw, U. S. Army, Surg. Gen. Hugh S. Cumming, U. S. Public Health Service, and Surg. Gen. Edward R. Stitt, U. S. Navy.

ILLINOIS

Liquor Permits Revoked.—The last of eighteen cases involving druggists and physicians in Elgin was heard, June 3. Their liquor permits, it is reported, will be revoked. In addition, about sixty other cases originating in Stephenson, Ogle and Lee counties will be heard and practically all of these licenses, the acting prohibition director states, are expected to be canceled.

Vacation Dangers.—The state department of health directs attention to the fact that during the last three years more than 1,000 persons have been accidentally drowned in Illinois and about the same number have died of typhoid, and that many of these fatalities were associated with summer vacations. The typhoid prevalence in the state climbs steadily from the end of June, when the vacation season opens, until September, when it reaches its highest prevalence, about 300 cases.

Chicago

Anonymous Gift of Rush Alumnus.—At the annual dinner of the Rush Medical College alumni, June 16, an anonymous contribution of $100,000 to the University of Chicago Development Fund to endow the chair of surgery was announced. The total thus far contributed by Rush alumni amounts to about $250,000.

Funds to Prevent Smallpox.—The finance committee has recommended to the city council an emergency appropriation

of $4,000 to be used to prevent the spread of smallpox in the city. The commissioner of health requested an appropriation of $25,000. There have been fifty-seven cases of smallpox and eight deaths in Chicago since January 1, a mortality exceeding that of any other year in the last decade.

Personal.—The reappointment of Dr. Herman N. Bundesen as commissioner of health of Chicago was confirmed by the city council, June 10.——Dr. William C. Woodward, executive secretary, Bureau of Legal Medicine and Legislation, American Medical Association, received the honorary degree of LL.D. at the recent commencement at Georgetown University, Washington, D. C.——Dr. Richard J. Tivnen, professor of diseases of the eye, ear, nose and throat, Loyola University School of Medicine, Chicago, received the honorary degree of doctor of laws from that university at the commencement, June 9.——Dr. Roy R. Ferguson was elected president of the Chicago Medical Society at the annual election, June 16, and Dr. Frank R. Morton, secretary.

INDIANA

Hospital Staff Reorganization.—The various departments of the Indianapolis City Hospital recently met and elected one of their number to a committee to formulate plans for the reorganization of the staff of the hospital. Dr. Murray N. Hadley represented surgery; Dr. Alfred S. Jaeger, gynecology; Dr. George S. Row, eye, ear, nose and throat; Dr. Bernard Erdman, genito-urinary, and Dr. Samuel E. Earp, medicine, nervous diseases and pediatrics. It will take time, says the *Indianapolis Medical Journal*, to work out the best plan, and when that is done, a report will be submitted at a meeting of the entire staff for its consideration.

Society News.—Dr. Martin H. Fischer, Cincinnati, addressed the Grant County Medical Society recently, at Marion, on "Edema and Nephritis."——Dr. Louis W. Sauer, Evanston, Ill., addressed the Northeastern Indiana Academy of Medicine, Kendallville, recently, on "Fevers of Obscure Origin in Children."——Dr. Ralph C. Brown, Chicago, recently addressed the Grant County Medical Society, Marion, on "Gastric and Duodenal Ulcer."——Dr. Frank E. Abbett, Indianapolis, recently addressed the Montgomery County Medical Society, Crawfordsville, on obstetrics.——Dr. Milton M. Portis, Chicago, recently addressed the Muncie Academy of Medicine, Muncie, on "Diagnosis and Treatment of Peptic Ulcer."——The Indianapolis Medical Society recently gave a dinner in honor of Dr. Willard D. Haines, Cincinnati, and later Dr. Arthur H. Curtis, Chicago, both of whom addressed the society.——Dr. Alois B. Graham, Indianapolis, has been appointed to the vacancy on the staff of the *Indianapolis Medical Journal* caused by the death of Dr. John N. Hurty.

IOWA

Dr. Boiler Resigns.—Dr. William F. Boiler, professor of ophthalmology at the State University of Iowa College of Medicine, Iowa City, has resigned and Dr. Cecil S. O'Brien, formerly of the Wills Eye Hospital staff, Philadelphia, has been appointed to succeed him. Dr. Boiler, who has been associated with the university for eighteen years, will engage in private practice.

Graduate Assistants in Child Development.—The Child Welfare Research Station at the State University of Iowa offers six graduate assistantships for 1925-1926 in the field of child development and parent training. The appointees will be required to devote four hours a day to the work of the station; they may take graduate work in allied studies. Opportunities will be available to participate in the statewide program in child welfare. The assistantships carry an allowance of $840 each through the financial cooperation of the Laura Spelman Rockefeller Memorial. The program has been arranged through the Iowa State College at Ames, the extension division of the university, and the school systems of certain cities.

KANSAS

Dr. Nyberg Resigns.—Dr. Milton O. Nyberg, secretary of the state board of health, resigned, June 1, and Dr. Earle G. Brown, Topeka, assumed the duties of the office on that date

Dr. Church Appointed Health Officer.—Dr. Ira O. Church, health officer of Geary County for three years, has been appointed city health officer of Topeka on the recommendation, it is reported, of a special committee appointed by the Shawnee Medical Society. Dr. Church will succeed Dr. Earle G. Brown, who resigned to accept the position of secretary of the state board of health.

State Society Wants Medical School at Rosedale.—At the recent meeting of the Kansas Medical Society, the committee on the medical school submitted a report, the recommendations of which were (1) that this society definitely go on record as opposing any further agitation favoring the removal of the present clinical work of the department at Rosedale to Lawrence or to any other place; (2) that the entire four years of the medical school be united at the present location at Rosedale as soon as the facilities there will permit; (3) that we, as a profession over the state, get behind the institution and begin the campaign that is to come two years hence, at which time we hope we shall be able to convince those in authority of the needs of the institution and of the fact that we have a definite program worthy of our profession. These recommendations were unanimously adopted by the state society, and similar resolutions were recently passed by the alumni association of Kansas University.

KENTUCKY

Notification of Rabies.—The state board of health recently notified all county judges in Kentucky of the presence of rabies in various places in the state and in neighboring states. There had been three deaths from rabies in Kentucky this year. The state laboratories at Louisville and Lexington are busy with the examination of the heads of dogs and the examinations show Negri bodies in nearly every specimen. It was advised that valuable dogs be immunized.

Rural Physicians and Laboratory Work.—Fifty physicians from rural communities in Kentucky came to Louisville, June 1, for a four day course in laboratory methods conducted under the auspices of the state board of health. Monday, the instruction was in blood work at the University of Louisville; Tuesday, in the use of insulin in diabetes, at the university; Wednesday, in the treatment for rabies by the state board of health, and Thursday, in methods of preventing tuberculosis, typhoid and malaria.

LOUISIANA

Unethical Testimony.—At the annual meeting of the Louisiana State Medical Society, New Orleans, April 23, the house of delegates reported to the general assembly that it is the sense of the house that it be considered unethical for any member of this society to testify against a fellow member in a damage suit when circumstances have been duly investigated and defense authorized by the committee on medical defense. The house also adopted the recommendation that the ambulatory treatment of drug addicts, as far as it relates to prescribing and dispensing of narcotic drugs to addicts for self-administration at their convenience, be emphatically condemned. The *New Orleans Medical and Surgical Journal* was granted authority to increase its subscription rate from $2 to $3. The secretary-treasurer was instructed to pay yearly to the annual arrangement committee 50 cents per capita based on the enrolment previous to the annual meeting.

MARYLAND

Dr. Lamson Goes to Vanderbilt University.—Dr. Paul D. Lamson, associate professor of pharmacology, Johns Hopkins University Medical Department, Baltimore, has been appointed professor of pharmacology at Vanderbilt University School of Medicine, Nashville, Tenn.

The "Six Months Law."—The U. S. Children's Bureau recently investigated the effects of the so-called "six months law" of Maryland, which was enacted in 1916, forbidding the separation of mother and baby for the first six months of the infant's life. The report shows that just prior to the enactment of the law one of every three babies of unmarried mothers died in the first year, and one of every four in the first six months. After the law had been in effect about five years (1921), one out of every eight babies of unmarried mothers died during the first year and one of every twelve during the first six months, a reduction in infant mortality in this group of more than 50 per cent. During the same period, the death rate of infants of legitimate birth was reduced about 20 per cent. The study shows also a decrease in the mortality of infants from intestinal diseases, which is considered due to an increase in breast feeding. Many small commercialized maternity hospitals have closed since the law became effective.

Semiannual Meeting with Governor.—The state board of mental hygiene and the superintendents and boards of managers of state hospitals for the insane and feebleminded held

their semiannual meeting with the governor, June 11, at Owings Mills. Dr. Hugh H. Young, chairman, board of mental hygiene, presided. Dr. Arthur P. Herring, commissioner of mental hygiene, spoke on "The Situation in Maryland Regarding the Care of Mental Defectives: A Plan for Consideration," and Dr. Lewellys F. Barker, professor emeritus of medicine, Johns Hopkins Hospital, a member of the board of welfare of Maryland, on "The Responsibility of Society in Caring for Mental Defectives." The discussion was opened by Governor Albert C. Ritchie. Plans for the unification of aims of the state board of mental hygiene and the state board of welfare were discussed. The commissioner of mental hygiene recommended that there be an extension of mental hygiene clinics, the institution of traveling clinics, further community care of mental defectives, and the registration of cases of mental deficiency and that new prisoners to state penal institutions be examined for insanity.

MASSACHUSETTS

Harvard Medical School Requires Physical Examination.—The faculty of Harvard University Medical School, Boston, has voted that beginning next year it shall be compulsory for medical students to undergo physical examination.

Dinner to Dr. Kraepelin.—The Massachusetts Psychiatric Society gave a dinner at the Hotel Somerset, Boston, June 5, in honor of Professors Kraepelin and Plaut of Munich, Germany, who have been in the United States, Mexico and Cuba for several months, engaged in a study of general paralysis.

Tribute to Dr. Fernald.—The governor recently signed a resolve changing the name of the Massachusetts School for Feeble-Minded to that of the "Walter E. Fernald State School," in tribute to the late Dr. Fernald, who was superintendent of the school from 1887 until the time of his death, Nov. 27, 1924.

State Medical Election.—At the annual meeting of the Massachusetts Medical Society, June 9-10, Boston, the council elected as president of the society Dr. James S. Stone, Boston; vice president, Dr. Michael F. Fallon, Worcester; secretary, Dr. Walter L. Burrage, Brookline; treasurer, Dr. Arthur K. Stone, Framingham Center; orator, Dr. Charles F. Painter, Newton, and librarian emeritus, Edwin H. Brigham, Wellesley Hills. In this state the council elects the officers of the association.

Personal.—Dr. Walter T. Garfield has been appointed dermatologist to the Cambridge City Hospital.——Dr. Fresenius Van Nuys, Weston, delivered the annual oration before the Middlesex South District Medical Society, Cambridge, recently, on "Deficiency Diseases."——Dr. Edward P. Richardson has been appointed associate professor of surgery at the Harvard University Medical School, Boston.——Dr. Burton E. Hamilton addressed the New England Heart Association at the Peter Bent Brigham Hospital, Boston, May 21, on "The Heart in Thyroid Toxicity."——Dr. Robert B. Osgood, Boston, has been invited to deliver the first lecture of the Owen Orthopedic Foundation in London, England. Dr. Osgood recently delivered the first Orthopedic Foundation Lecture at the Wayne County Medical Society, Detroit.

Judge Allows Physician's Bill.—Recently a workman repairing automobiles was injured, and the foreman called in a physician who was not employed by the insurance company that insured the automobile concern under the workmen's compensation act. The physician rendered a bill to the employer of the patient, who turned the bill over to the insurance company. The latter obtained a ruling from the Industrial Accident Commission reducing the bill to about half its original amount. The question then arose as to whether the Industrial Accident Commission had the jurisdiction to reduce a physician's fees rendered unconditionally to the employer and at the employer's request. The municipal court of Boston rendered a decision in favor of the physician for the sum he claimed. The judge found that the physician was unconditionally employed by the employing corporation, which was liable for the full amount of the physician's bill.

MICHIGAN

Hospital News.—Work, discontinued on account of lack of funds, on the new University of Michigan Hospital, Ann Arbor, has started again. The hospital probably will open in July.——St. Joseph's Sanatorium, Mount Clemens, has opened a new seventy-room building.——A new psychiatric clinic has been opened at the Harper Hospital, Detroit, and has a staff of a psychologist, a psychiatric social worker, a psychiatric worker in training and a clinic secretary. Dr. Arnold L. Jacoby is director.

Illegal Practitioners Arrested.—Warrants were issued, June 2, in Detroit, for the arrest of four men charged with practicing medicine without a license. They were, it is reported, Eben Kennedy, proprietor of the "Michigan Inhalitorium," 1111 Griswold Street; Leo Feldner, who has opened offices at 1406 Broadway under the name of "Dr. Burnett"; Peter Janss, 433 Michigan Avenue, and John West, 2804 Rivard Street, who has been posing as a faith healer. The investigation which led to the warrants was made by an investigator of the department of health.

MINNESOTA

Memorial Library in Pediatrics.—Friends of the late Dr. Julius Parker Sedgwick have contributed funds to purchase his library for the University of Minnesota, to be maintained as a memorial to Dr. Sedgwick. The duplicates will remain the property of Mrs. Sedgwick. The library has been turned over to the university and accepted by the board of regents.

Personal.—Dr. Robinson Bosworth, executive secretary of the Advisory Commission of the State Sanatorium for Consumptives, has been appointed superintendent and medical director of the Rockford Municipal Sanatorium, Rockford, Ill., and will take up his new duties, July 1.——Dr. William M. Sweney has been appointed health officer of Red Wing, succeeding Dr. Nels L. Werner.

Psychopathic Work Discontinued.—After July 1, the psychopathic work in the state, which has been carried on by a group of men traveling from one territory to another, will be discontinued, the legislature having dropped the bill that provided for it. According to members of the medical faculty of the university, there will be no more work of this kind until the Rockefeller comprehensive plan is established.

Postgraduate Course in Tuberculosis.—The University of Minnesota, cooperating with the Hennepin County Tuberculosis Association and the Glen Lake Sanatorium, will give a course in tuberculosis for physicians of the state, June 22-27. There will be at least twenty clinicians and lecturers, including Dr. Allen K. Krause, Johns Hopkins University Medical School, Baltimore, and Dr. Gerald B. Webb, Colorado Springs, Colo.

MONTANA

Railway Surgeons' Meeting.—The third annual meeting of the Great Northern Railway Surgeons Association will be at Glacier Park Hotel, Glacier National Park, June 25-26, under the presidency of Dr. John G. Cunningham of Spokane. Among others, Dr. Fordyce B. St. John, associate professor of surgery, Columbia University College of Physicians and Surgeons, New York, will speak on "Massive Collapse of the Lung," and Dr. Robert G. Allison, assistant professor of roentgenology, University of Minnesota Medical School, Minneapolis, on "The Differential Diagnosis of Spinal Conditions." Dr. Cunningham will give the presidential address at the annual banquet on "Surgical Progress and the Railroad Surgeon." The Blackfeet Indians, Glacier Park, will give a war dance.

Report on Spotted Fever.—The secretary of the state board of health, Dr. William F. Cogswell, reports that five of the fifteen cases of Rocky Mountain spotted fever reported this year have been fatal. Five cases occurred in Missoula, two in Carbon, two in Yellowstone, and one each in Ravalli, Custer, Musselshell, Treasure, Rosebud and Garfield counties. The patient in Ravalli County was a field worker employed by the state in its campaign against ticks. He had received two injections of the Spencer-Parker vaccine, and developed the disease before the vaccination was completed. It is thought that the infection occurred about four days after the first injection of the vaccine. His case was milder than any other, and at the time of the report it was thought that he would recover.

NEW JERSEY

Ban on Pennsylvania Interns Modified.—The action of the New Jersey State Board of Medical Examiners at its May meeting in refusing to grant licenses to practice medicine to graduates of Pennsylvania medical colleges, unless they spend a year's internship in a New Jersey hospital, has been modified so it will not be retroactive. Candidates who began their internship in Pennsylvania prior to May 7 will be

admitted to examination in New Jersey, while those entering subsequently will not.

State Medical Meeting.—At the one hundred and fifty-ninth annual meeting of the Medical Society of New Jersey, Atlantic City, June 18-20, Dr. John A. Kolmer, professor of pathology and bacteriology, Graduate School of Medicine, University of Pennsylvania, will deliver the oration in medicine, and Dr. John F. Erdmann, professor of surgery, New York Post-Graduate Medical School, the oration in surgery. There will be a conference of treasurers and secretaries of the component societies, with the president, treasurer and recording secretary of the state society, June 19, following the afternoon session of the house of delegates. Dr. Lucius F. Donohoe will deliver the presidential address, Friday evening. The meetings will be at Haddon Hall.

NEW YORK

Historical Medicine at Cornell.—The study of historical and cultural medicine has been added to the curriculum of Cornell University Medical College. Dr. Charles L. Dana will give weekly illustrated lectures, which will be open to both the profession and the lay public.

Anonymous Gift.—The sum of $100,000 has been received for improvements at the Bloomingdale Hospital for Nervous and Mental Diseases, at White Plains. The gift was anonymous. A series of cottages for nurses, occupation instructors and other members of the staff will be erected.

The Forbes Case.—A jury in supreme court, May 22, rendered a verdict of $13,500 for the plaintiffs in the suit of *Forbes* v. *The City of Jamestown*. An epidemic of typhoid fever in Jamestown in 1923 was attributed to a typhoid carrier on the Forbes' dairy farm. Forbes and his two sons sued the city for $50,000 damages, claiming that their business had been ruined. They contended that if their milk caused the epidemic, it was contaminated by their cows wading in a stream into which the city discharged raw sewage. The plaintiffs obtained a verdict of $12,000 damages in the first trial. The appellate court set aside the verdict and ordered a new trial. The city will appeal again, it is reported. Among the witnesses for the defense at the recent trial were Prof. Edwin O. Jordan, Ph.D., University of Chicago; Dr. Milton J. Rosenau, Harvard University Medical School, Boston; Dr. Allen W. Freeman, Johns Hopkins University School of Hygiene and Public Health, Baltimore, and Dr. Oliver W. H. Mitchell, Syracuse University School of Medicine.

Amendments to Insanity Law. — The last legislature amended the insanity law to provide that physicians in charge of state hospitals, or any licensed institution for the treatment of the insane, when requested by a health officer, may receive a person who needs immediate care because of mental derangement other than that caused by drunkenness, for a period not exceeding thirty days. The health officer is required before the expiration of that time, unless the patient signs a request to remain as a voluntary patient, to cause the patient to be examined by two qualified examiners and committed if found insane, or removed if not insane. Another amendment provides for the commitment of persons who by reason of periodic or constant drunkenness induced by liquor or narcotics, are incapable properly to conduct themselves. Another amendment adds to the list of those who may apply for commitment of such persons, any person with whom an alleged inebriate may reside or at whose house he may be, the nearest relative or friend available, or an officer of any well recognized charitable institution or any overseer of the poor of the town or superintendent of the poor of the county.

New York City

Campaign for Funds Closes.—The campaign of the Presbyterian Hospital to raise $7,000,000 for new buildings closed, May 28, with a total assured of $5,758,000. According to *New York Medical Week*, active campaigning will be resumed in the fall.

Study of Expenditures for Charity.—The first analysis of the source and disbursement of New York's expenditures for charity has been made by the Charity Organization Society. Data were collected from 474 of the largest private charitable societies and from seven public departments, excluding the large foundations, fraternal groups and churches. In 1923, the year studied, the city expended $19,158,346 through its own institutions for the care of the sick and unfortunate and for promotion of public health and welfare, and, in addition, appropriated nearly $7,000,000 for private agencies for the care of public charges; 37 per cent. of the city's charity bill was paid from taxes. The private philanthropic societies in 1923 expended almost $51,000,000, including the appropriations mentioned from the city; 45 per cent. of the private charity budget was for the expenditures of hospitals.

Personal.—Dr. William A. White, superintendent of the Government Hospital for the Insane, Washington, D. C., addressed the graduating class of the Long Island College Hospital at the Academy of Music, May 28.——For distinguished services in public health, hygiene and original work in protective serums, Dr. William H. Park, May 14, received the gold medal of the National Institute of Social Sciences. ——Dr. Louis Fischer has been appointed consulting physician to the St. Vincent's Nursery and Babies' Hospital of Montclair, N. J.——Dr. Paul E. Wesenberg has been appointed attending gynecologist to the Coney Island Hospital.——Waro Nakahara, Ph.D., of the Rockefeller Institute for Medical Research has been appointed associate pathologist at the government institute for infectious diseases, Tokyo Imperial University, and research associate in the division of experimental therapy at the Institute of Physical and Chemical Research, Tokyo.——Dr. M. Allen Starr, emeritus professor of neurology, Columbia University College of Physicians and Surgeons, was the official delegate appointed by the state department to the recent centenary of the birth of Charcot.

NORTH CAROLINA

Dr. Rankin Honored. — Wake Forest College and Duke University recently conferred the honorary degree of Doctor of Science on Dr. Watson S. Rankin, Raleigh.

Expelled from County Society.—In conformity with the report of its board of censors, the Buncombe County Medical Society, Asheville, is reported as having expelled Drs. George W. Purefoy and Garrett D. Gardner, recently convicted in the federal courts of violating the Harrison Narcotic Law.

Bahnson Memorial Infirmary.—At the commencement exercises of the Salem Woman's College, Winston-Salem, the Bahnson Memorial Infirmary was presented to the college. The structure was built in memory of the late Dr. Henry F. Bahnson of that city, who was for many years the college physician, a member of the North Carolina State Board of Medical Examiners, president of the state medical society, and president of the North Carolina Board of Health.

Tribute to Dr. Fletcher.—The mayor of Asheville announces that the high school recently erected has been named the Hall Fletcher High School, as a tribute to the memory of the late Dr. Marshall Hall Fletcher. A committee of the Buncombe County Medical Society assumed the leadership in this move. Dr. Fletcher was a member of the state board of medical examiners, president of the North Carolina State Medical Society, and for nearly forty years physician-in-chief of the Mission Hospital, Asheville.

Election Rescinded.—There was an error in the recent act authorizing a $250,000 bond issue for the construction of the Forsythe County Tuberculosis Hospital, and the county commissioners have rescinded the order for holding the election. The constitution of North Carolina requires that laws authorizing the holding of elections on bond issues shall be read three times in each legislative body on three separate days. In the Forsythe enactment, it appears, the bill was read three times in each house but not on three separate days, thus invalidating the election, should it be held.

OHIO

"Doctor" Sentenced.—"Dr." Cassius Minser, Webster, was sentenced, May 14, in the common pleas court at Greenville to eighteen months in the state penitentiary following his plea of guilty, it is reported, to an indictment charging him with performing an illegal operation. There is no physician by this name in the American Medical Directory.

Tuberculosis Clinic.—In cooperation with the Wood County Medical Society and the Wood County Health Department, the state department of health conducted a diagnostic chest clinic at Bowling Green late in May. In two days three diagnosticians made 101 examinations, finding fourteen positive cases of tuberculosis and forty-three suspects. Thirty-four of the forty-one local physicians attended the clinic, and every physician who had a patient among those examined was present during the examination.

Military Committee Commended.—The house of delegates of the Ohio State Medical Association at the seventy-ninth annual meeting, Columbus, unanimously adopted a resolution commending the military committee of that association for its zeal in cooperating with the army authorities and the several hundred Ohio physicians now enrolled in the medical officers' reserve corps for their interest. It was recommended that the military committee be continued as an active nucleus for organization and the fundamental machinery for expansion in case of emergency.

Personal.—Dr. John H. J. Upham, Columbus, recently addressed the annual meeting of the Union Medical Association, Springfield Lake Sanatorium, on "Hypertension."——Dr. Frederick H. Stires, Malvern, has been appointed health commissioner of Carroll County, to succeed Dr. James J. Hathaway.——Dr. John Hart Davis, director of pediatrics at the Child Health Demonstration being conducted in Mansfield, has resigned and will be succeeded by Dr. Charles L. Shafer of Cleveland.——Dr. Mont R. Reid, Cincinnati, has been appointed professor of surgery in the Rockefeller Medical Institute in Peking, China, for the coming year.

PENNSYLVANIA

Editor Retires.—The board of trustees of the Pennsylvania State Medical Society announces that Dr. Frederick L. Van Sickle has retired from the offices of executive secretary and editor of the *Atlantic Medical Monthly*. Pending the election of an editor, Dr. Frank C. Hammond, chairman, committee on publication, will be acting editor.

Pittsburgh's New Hospitals.—Five major hospital projects are under way in Pittsburgh, including a new Children's Hospital to cost $1,500,000; an addition to the Homeopathic Hospital costing $500,000; a seventy-four room addition to the Pittsburgh Hospital, costing $226,000; a $1,000,000 Nurses' Training School for the Mercy Hospital, and a new Montefiore Hospital, which will cost $2,000,000.

Fellowships in Neuropsychiatry.—The Commonwealth Fund of New York City has established five fellowships in neuropsychiatry in the Graduate Medical School of the University of Pennsylvania. These fellowships are for three years and are for the purpose of training candidates in conjunction with the newly established Child's Guidance Clinic. The course is similar to the three years' course of the graduate school, but special emphasis will be paid in the last year to child's guidance work. The stipend will be about $2,000 a year. Candidates must be between the ages of 25 and 35 years, inclusive, graduates of Class A medical schools, and well recommended. Advanced standing will be allowed for those who show the proper credentials. Applications for these fellowships should be made promptly to George H. Meeker, Ph.D., dean of the Graduate School of Medicine, University of Pennsylvania, Philadelphia.

Philadelphia

Drs. Strecker and Sweet Appointed Professors.—Dr. Edward A. Strecker has been appointed professor of nervous and mental diseases at Jefferson Medical College to succeed Dr. Francis X. Dercum, who resigned last April, and Dr. William M. Sweet has been elected to the chair of ophthalmology to fill the vacancy left by the resignation of Dr. Howard F. Hansell. Dr. Strecker graduated from the Jefferson Medical College in 1911, since which time he has been in institutional and research work and connected with the Pennsylvania Hospital for the Insane. Dr. Sweet graduated from Jefferson in 1886. He has been clinical professor of ophthalmology at Jefferson and is professor of diseases of the eye and clinical professor of ophthalmology in the Graduate School of the University of Pennsylvania. Drs. Dercum and Hansell have been made professors emeriti of the departments they have directed for more than twenty-five years.

Personal.—Dr. Charles H. Frazier addressed a joint meeting of the Brooklyn Surgical Society and the Medical Society of Bay Ridge, New York, May 12, on "The Treatment of Trigeminal Neuralgia."——Dr. J. Norman Henry, president of the Pennsylvania State Medical Society, addressed the Cambria County Medical Society, Johnstown, May 14.——Dr. Anna S. Kugler, who has spent forty-three years in India as a medical missionary, has returned to this country to enlist aid in that work.——Prof. Herbert Freundlich of the Kaiser Wilhelm Institute of Physical Chemistry and honorary professor, University of Berlin, addressed a joint meeting of the Physiological Society of Philadelphia and the Rush Society, June 3, at the University of Pennsylvania.——James B. Collip, Ph.D., professor of biochemistry, University of Alberta, Canada, addressed the stated meeting of the College of Physicians, June 3, on "Recent Studies on a Parathyroid Gland."

RHODE ISLAND

State Medical Election.—At the one hundred and fourteenth annual meeting of the Rhode Island Medical Society, Providence, June 4, Dr. Halsey DeWolfe was elected president; Drs. Herbert G. Partridge, Providence, and Norman M. MacLeod, Newport, vice presidents; Dr. Jesse E. Mowry, Providence, treasurer, and Dr. James W. Leech, Providence, secretary.

SOUTH CAROLINA

Faculty Changes at Medical School.—The dean of the Medical College of the State of South Carolina, Dr. Robert Wilson, Jr., announced, June 4, that in the last year the college had lost through resignation Dr. George Frasier Wilson, professor of obstetrics, and Dr. Richard M. Pollitzer, professor of pediatrics, both of whom have gone into other fields of work, and that their chairs have been filled by the promotion of Assistant Professor Dr. Lester A. Wilson to the chair of obstetrics, and Assistant Professor Dr. Mylnor W. Beach to the chair of pediatrics. Drs. Thomas H. Martin and Charles A. Speissegger, Jr., have been promoted to instructors in medicine and gynecology, respectively, and Dr. Theodore E. Bowers, Charleston, to lecturer in surgery. Dr. Hugh E. Wyman has been appointed instructor in clinical pathology; Dr. Barnwell R. Baker, assistant in urology; Dr. George F. Heidt, lecturer in obstetrics, and Dr. Robert B. Taft, instructor in physical therapy and roentgenology.

SOUTH DAKOTA

State Medical Election.—Dr. William R. Ball, Mitchell, was elected president at the annual meeting of the South Dakota State Medical Association, Sioux Falls, May 21; Drs. Theodore F. Riggs, Pierre, Silas M. Hohf, Yankton, and Nelson K. Hopkins, Arlington, vice presidents, and Dr. John F. D. Cook, Langford, secretary-treasurer.

TEXAS

Personal.—Dr. Herbert F. Sterzing has been appointed general superintendent of the City-County Hospital System at Houston, which includes the general hospital, isolation hospital, poor farm and clinics.——Dr. Asa H. Speer has assumed the duties of health officer of Corpus Christi.——Dr. Gavin Watson, Clarksville, was recently appointed health officer of Red River County.

Rabies in Tarrant County.—In many sections of Fort Worth and rural communities in Tarrant County, a rabid dog appeared in April. A proclamation was issued by the county health officer requesting that all dogs be kept confined for twenty-one days. Another rabid dog visited Handley, May 27, and a second proclamation was issued for owners to confine all dogs until July 1. A girl, aged 16, and a boy, aged 13, recently died of rabies in Fort Worth, and a man bitten by a rabid horse is under treatment. It is estimated that 2,000 dogs were killed in Fort Worth in ten days.

WISCONSIN

Fund for Needy Students.—A fund of $5,000 from the estate of the late Mrs. Cora R. Evans, Madison, has been given to the University of Wisconsin, to be held in trust by the regents and the income lent to needy students.

License Revoked.—Dr. Otto E. Werner, Oshkosh, was sentenced in circuit court, recently, to nine months in the county workhouse and a fine of $500 following a conviction on a charge of using instruments with intent to commit an illegal operation, it is reported. The sentence of the court also revoked his license to practice medicine in Wisconsin.

University Establishes Course in Nursing.—A three year professional nurses' training course has been established at the new Wisconsin General Hospital in connection with the College of Letters and Science of the University of Wisconsin. If at the end of the three year course, a nurse desires the bachelor of science degree, she may receive credit for her course in nursing and complete the requirements for the degree.

Society News.—Dr. Herman L. Kretschmer, Chicago, addressed the Green Bay Academy of Medicine, Green Bay, May 13, on "Hematuria," illustrated by lantern slides.——Dr. Clarence W. Hopkins, Chicago, addressed the meeting of the Brown-Kewaunee County Medical Society, Green Bay, May 5,

on "Traumatic and Reconstruction Surgery."——Dr. Arthur S. Loevenhart addressed the Dane County Medical Society, Madison, May 20, on "Studies in Local Anesthesia."

WYOMING

State Medical Meeting.—Wyoming State Medical Society will hold its twenty-third annual meeting at Buffalo, June 22-23. Among others, Prof. John W. Scott, Ph.D., University of Wyoming, will speak on "Supposed Low Stature of Wyoming Men and Its Possible Explanation"; Dr. Clyde A. Roeder, Omaha, on "Pathologic Indications for Resection of the Stomach with Consideration of the Normal and Abnormal Physiology of the Gastro-Intestinal Tract"; Dr. Tom B. Throckmorton, Des Moines, Iowa, on "Differential Diagnosis of Functional and Organic Diseases of the Nervous System"; Dr. Albert R. Mitchell, Lincoln, Neb., on "Some of the Newer Things in Diagnosis and Treatment"; Dr. Roger P. Hentz, Veterans' Hospital No. 86, Fort Mackenzie, Wyo., on "Dementia Praecox"; Dr. George G. Richards, Salt Lake City, on "Peptic Ulcer," and Dr. James F. Cooper of the American Birth Control League, New York, on "Technic of Contraception." There will be a joint meeting with the Wyoming State Dental Society Monday morning; the "annual bath" of the Wyoming physicians and dentists at 5 o'clock, and a trip to the Big Horn Mountains for lunch at 6 o'clock. The annual banquet and dance will be at Horton's HF Bar Ranch, 18 miles from Buffalo.

GENERAL

Symposium on Malaria.—The *Southern Medical Journal* (June) publishes an extensive collection of papers on malaria, some of which were read before the joint conference of the National Malaria Committee and the Southern Medical Association.

National Board Examination.—The National Board of Medical Examiners will hold examinations in Part III, New York City, June 29-July 2. Candidates should address the secretary of the board for details at 1600 Walnut Street, Philadelphia.

Honorary Degrees.—It is reported that Queen's University, Belfast, Ireland, conferred honorary degrees of doctor of laws, June 13, on Drs. Charles H. Mayo, Rochester, Minn., Franklin H. Martin, Chicago, and Hugh Cabot, Ann Arbor, Mich., all members of the Inter-State Postgraduate Medical Assembly, which is now visiting clinics in Europe.

Travel Study Club.—The ninth annual reunion of the Travel Study Club of American Physicians was held in Atlantic City, May 26. Drs. Louis Livingston Seaman and Dr. Richard Kovacs, both of New York, were reelected president and secretary-treasurer, respectively. The club decided on a tour to London, Paris, Switzerland, Munich, Vienna and Berlin in 1926.

Schools Offering Summer Courses.—Since the list of schools offering summer courses was published (THE JOURNAL, May 30, p. 1685), notice has been received from the University of Oregon Medical School, Portland, that the courses likely to be given there are those in neurology and histology, covering the same work as the regular course; also from the Medical College of Virginia, Richmond, that a special course in pathology will be given, having the same hours and of the same character as the course outlined in the regular school year.

Dentistry a Specialty of Medicine.—At the recent meeting of the Dental Educational Council of America, the secretary was instructed to inform the dental and medical professions through the various journals that the council unanimously adopted the following: "The Council cordially endorses the Carnegie Foundation's formal conclusion that dentistry is an independent division of health service which is attaining the full equivalence of an oral specialty of medicine, and commends these views of the Foundation to the attention of the public and of the medical and dental professions."

Tenth Revision of Pharmacopeia.—The board of trustees of the United States Pharmacopeial Convention announces that the Tenth Revision of the U. S. Pharmacopeia will become official, Jan. 1, 1926. Arrangements have been made to put on sale throughout the United States, on a date to be specified, 30,000 copies of the new book. The price will be $4. The board of trustees has fixed the price of the Ninth Revision of the Pharmacopeia, which has been the official standard for ten years, at $2, the reduction being made to encourage the keeping of the Ninth Revision for official use until January 1 and for future reference in libraries.

Industrial Poisons Committee.—This committee of the Chemical Section of the National Safety Council is issuing data sheets on common industrial poisons which are characterized by symptoms which might be due to any one of a number of industrial poisons. The sheets also describe preventive methods and advice on special training or emergency equipment to meet any acute exposure due to accidents. The sheets will be published for general distribution, and persons desiring advice on particular problems, or who have worked out useful methods of minimizing poison hazards, are requested to communicate with the chairman of the section, A. L. Watson, Hooker Electrochemical Company, Niagara Falls, N. Y.

Society News.—The program of the Pacific Northwest Medical Association, which meets at Portland, Ore., June 29-July 1, includes a number of prominent speakers from this country; Sir Henry M. W. Gray, Montreal, on "Developmental Abnormalities Affecting the Colon," and Dr. Alan N. Drury of the University College Hospital Medical School, London, England, who will discuss four topics concerning heart diseases.——The American Dental Association will hold its sixty-seventh annual session in Louisville, Ky., September 21-25.

Improvement in Plague Situation.—It seems certain, says the Epidemiologic Report of the League of Nations (May 15), that the plague situation will remain more favorable this year than during the two preceding years. No cases were known to have occurred in any port of the Mediterranean or the Black Sea in February, March or April. The improvement is greatest, compared with last year, in the Punjab and the Middle Ganges Valley, India. There were in the week ending March 14, 1,524 deaths from plague in the Punjab, as against 4,529 in the corresponding week of last year. It is remarkable that in Egypt no new cases were reported the week following April 22, as plague usually reaches its maximum prevalence in that country in May. A decrease in the number of cases is also noted for several other countries.

Vaccination in American Colleges.—Dr. Robert T. Legge, university physician, University of California, Berkeley, recently inquired of more than fifty colleges and universities which are members of the American Student Health Association, whether they have had any smallpox in the last ten years and whether they required evidence of successful vaccination before matriculation. Of the fifty replies received, twenty-five institutions stated that they required students to present evidence of successful vaccination and twenty-five stated that they did not. In the absence of vaccination scars, ten institutions accepted vaccination certificates. In schools in Massachusetts and New York, which states have vaccination laws, there was no record of any smallpox during this period. In contrast, the University of Utah had a serious smallpox epidemic in 1922. In this state health authorities are prohibited from requiring the vaccination of any person or from excluding unvaccinated pupils from school.

Renewal of Permits Under the National Prohibition Act.—Physicians holding permits under the National Prohibition Act entitling them to prescribe or use or to prescribe and use intoxicating liquor, which permits expire, Dec. 31, 1925, may file renewal applications with the State Prohibition Director on or after July 1 and not later than August 31 next. In cases in which a permittee who desires a renewal of his permit fails to file application therefor on or before August 31, the time for filing the application may be extended, in the discretion of the Prohibition Commissioner and for good cause shown, until November 30. If no extension is granted and if the application is not made on or before August 31, or if the extension is granted and the application is not made on or before November 30, then the physician desiring permit privileges must apply as for a new permit. Application for a permit or a renewal permit should be made, in triplicate, on Form 1404, copies of which may be secured from the Prohibition Commissioner or from the State Prohibition Director.

League of Nations to Cooperate with Red Cross.—Plans for an international association to aid victims of catastrophes have been drawn by the special commission of experts of the League of Nations at Geneva. The executive committee, according to the New York *Sun*, will collaborate with the Red Cross and other associations which aid victims of disasters. The initial funds will be realized through a tax on members on the scale used to reckon the yearly dues of the league members, but the principal resources will be sought from private donations. The financial control will be exercised by the league.——The Advisory Committee on

Traffic in Women and the Protection of Children of the League of Nations adjourned, May 27, at Geneva, after adopting for recommendation an almost wholly American program. The committee decided to change its name to Advisory Commission for the Protection and Welfare of Children and Young Persons, and to divide into two sections. The first will be known as the "Traffic in Women and Children's Committee" and the second the "Child Welfare Committee." At present the commission is receiving from the League budget 50,000 Swiss francs yearly in addition to secretarial expenses.

LATIN AMERICA

Uruguay Sends Tablet of Finlay to Cuba.—The *Vida Nueva* reproduces with appropriate comment an illustration of the bronze tablet, bearing the inscription "The National Public Health Service of Uruguay to Carlos J. Finlay, 1924," which is to be forwarded as a gift to Havana.

Personal.—Dr. J. R. Risquez, Caracas, has been awarded the J. G. Hernández prize for his work on "Bronchial Spirochetosis in Venezuela." No articles were presented in competition for the prize, and the jury decided to award it as a tribute to Risquez' work, published in 1922.——Dr. Carlos Seidl, editor of the *Revista Medico-Cirurgica do Brasil*, has organized a committee to promote the Pravaz monument fund, and publishes in the current issue a biographic sketch of the inventor of the hypodermic syringe.——Dr. A. Peralta Ramos, professor of obstetrics, Buenos Aires, was the guest of honor recently at a lunch tendered after his lecture at Paris by the dean of the university and Professor Brindeau. He also spoke and was entertained at Madrid and elsewhere. ——The three medical societies of Havana united to pay tribute to Dr. Francisco Cabrera Saavedra on his fiftieth professional anniversary, April 20.——Drs. A. Aballí and F. M. Fernández, in turn presidents of the Havana Sociedad de Estudios Clinicos, led their flock to distant cities for some of their scientific meetings during the last year. The excursions, with a private train, helped, it is hoped, to promote the realization of the dream of an organized profession throughout the country.

FOREIGN

Nurses World Congress.—The Nurses World Congress, which meets in Helsingfors, Finland, July 20, will be attended by delegates from thirty-two countries. The United States will send the largest delegation (200); Canada will have fifty representatives and England twenty-four.

Blood Donor Cited.—B. W. Tibble received the Order of the British Empire at the King of England's birthday honors, "for public service in saving life." Tibble has given, free of charge, a pint of blood for transfusion on forty-four occasions. He has been elected a life governor of the London Hospital.

National Association for the Prevention of Tuberculosis.—The British minister of health has authorized the expense of three delegates each from county councils, county borough councils, metropolitan borough councils and joint committees for tuberculosis to the eleventh annual conference of this association in London, July 6-7. Among other speakers will be Professor Pirquet of Vienna and Professor Møllgaard, Copenhagen, Denmark. The fee of 1 guinea per delegate includes a copy of the transactions.

International Congress of Industrial Accidents.—The fourth international medical congress of industrial accidents and diseases will be held in Amsterdam, September 7-12. This will be the first congress since the World War. Apart from the scientific proceedings, including papers by men well known in various countries, there will be a reception by the minister of labor at The Hague, another by the county council of Amsterdam, and a trip to the harbors and suburbs of that city. Information can be obtained from the secretary, Dr. Herman S. N. Menko, 2 Grosvenor Gardens, Cricklewood, London, N. W. 2.

Deaths in Other Countries

Dr. **Antoine Depage,** professor of surgery, University of Brussels, Belgium, surgical adviser to the king, head of the Belgium Red Cross during the World War and founder of the great hospital at LaPanne, died, June 10, at The Hague, aged 66.——Dr. **van der Stricht,** professor of histology at Ghent.——Dr. **A. Rémy,** Dijon, inventor of the diploscope.——Dr. **J. Pawinsky,** Warsaw, corresponding member of the French Académie de médecine.

Foreign Letters

LONDON

(From Our Regular Correspondent)

June 5, 1925.

Postgraduate Teaching in London

The discussion on postgraduate teaching in London, under the auspices of the Fellowship of Medicine, reported in The Journal, May 2, was resumed. Sir Thomas Horder said that the postgraduate habit in this country needed stimulating, and it was from within the profession that that stimulus should come. Four suggestions might be considered; namely, that: (1) the panel of those willing to assist in postgraduate work should be made smaller, containing only carefully selected names; (2) the teaching staffs of undergraduate schools should be recaptured for this work; he was sure that they would be willing to assist; (3) the fellowship should find a home of its own, if only a room, where teaching could be carried on, and (4) a hospital was essential. The fellowship should never rest satisfied with any scheme that did not include a college for teaching and a hospital for practice. Sir James Dundas-Grant described the work of the old polyclinic, which had done such valuable service in providing daily demonstrations by members of hospital staffs followed by lectures, commencing at 5:15, and given by the same teachers or by members of consulting staffs, the nature of the demonstration being fixed for each day of the week. A nominal annual subscription entitled physicians to attend these classes, and although no honorarium was offered, plenty of distinguished men came forward to assist in the provision of them. He suggested that something on these lines might be started at once.

Mr. H. W. Carson spoke of the difficulty of getting the whole profession on the side of postgraduate education; the undergraduate teaching staffs did not so much need "recapturing" as interesting in the first place. Many foreigners coming to London were disappointed at finding that there was no way of seeing the work of certain world-renowned physicians. The provision of a central hospital had many difficulties; it did not seem likely that any existing one would consent to devote itself to postgraduate work, and to build one would be a colossal undertaking. The staff of such an institution must either be fixed, providing a very limited number of teachers, or, if it were fluctuating, the hospital would be difficult to administer, and the turn of some people would be long in coming. On the other hand, a home and hostel was absolutely essential, with some one in charge of it. At the North-East London Post-Graduate College, it had been found a successful plan to allow local physicians to become members of the college for a small subscription. This enabled them to use the hospital when they liked. He suggested that the fellowship should invite local hospital centers to receive members of teaching staffs for the purpose of conducting demonstrations.

A letter from an overseas postgraduate student was read, criticizing present arrangements on the grounds of the time wasted in getting across London, in the late attendance of appointed teachers or their failure to attend, and the inability of some teachers to teach. He suggested that concentrated courses of a month's duration, consisting of six or seven hours a day for seven days a week, should be provided to include the examination of selected outpatients demonstrated by a first-class person, with an exposition of his own views and those of other eminent persons, as to all modern methods of differential diagnosis and treatment; attendance at operations in all branches, frequent demonstrations on the cadaver, con-

stant review of anatomy, etc. He would not want to hear lectures or to see large collections of cases or to suffer long disquisitions on theory or the autobiography of the teacher. The young graduate should be separated from the man who had been specializing for some time.

Mr. J. P. Lockhart-Mummery said that the difficulty was a financial one. He had been treasurer of the old policlinic, and they had always been held up by lack of funds. The postgraduate must provide the required money himself; the public would not help. The material was all to hand, but, unless 5,000 physicians could be found to subscribe $5 a year each toward organization, that material could not be properly utilized.

British Social Hygiene Council

The British Social Hygiene Council is the name by which the National Council for Combating Venereal Disease will be known in the future. In 1920, 105,000 new cases of venereal diseases were seen at the free treatment centers; this figure had fallen to 72,000 in 1923, the cases of syphilis alone having fallen from 42,000 in 1920 to 23,000 in 1923. This is mainly due to efforts jointly made by the ministry of health, the local authorities and the council to secure that the persons infected should be treated at the centers. During the last eight years, more than 4,000,000 pamphlets dealing with venereal diseases have been distributed by the council. More than 15,000 lectures have been given, and a minimum of 3,000,000 have been enlightened through the cinema film and the spoken word. There is hope that syphilis and gonorrhea will, within the lifetime of the present generation, cease to take their present heavy toll of the life and health of posterity. The council adds that the broader field of social hygiene must be entered if the direct medical efforts are to be successful. The problem of preventing venereal diseases is part of the wider problem of preventing all disease through the better understanding of the laws of health and the development of a virile health conscience in the rank and file of the community. There is a need of adjusting the educational and social influences surrounding the rising generation to develop an individual sense of racial responsibility.

The Increase of Smallpox

During the first quarter of the present year, 1,760 cases of smallpox were notified in England and Wales. The subjoined table gives the locations:

	Smallpox Notifications Cases
Yorks, North Riding	572
Derbyshire	338
Nottinghamshire	259
Northumberland	210
Northamptonshire	99
Warwickshire	65
Yorks, West Riding	58
Durham (County)	45
Leicestershire	42
Lincolnshire	29
Lancaster	23
Chester	12
Port of London	4
Hertford	4
Total	1,760

Middlesbrough (city borough) had 551 cases, Derby (city borough) 217 cases, and Mansfield 124. In the period under review, there has been a remarkable increase in the weekly notifications—so much that the disease has become endemic in certain districts of the midlands. Only four deaths have occurred, so that the disease is of a mild type. The increase is attributed by health officers to the neglect of vaccination.

Using a Boxer for Medical Purposes

The Medical School of the Middlesex Hospital, in order to provide the subject for a demonstration in surface anatomy, obtained Phil Scott, the heavy-weight boxer. Scott appeared before the students in his fighting kit—shorts and shoes. He spent the whole day in passing through the various departments of the hospital. Following the anatomic demonstration, he was examined by the ophthalmic, cardiographic and radiologic departments. His eyesight and blood pressure were tested, and the roentgen-ray apparatus enabled the normal beating and shape of the heart of an athlete in fine condition to be recorded. He also passed through the neurologic and psychiatry departments. He ran round the garden of the hospital and then upstairs to the physiologic department for cardiologic examinations.

BUENOS AIRES

(From Our Regular Correspondent)

May 8, 1925.

University Elections

In the recent elections for dean of the Buenos Aires Medical School, four candidates asked for the students' votes. One of them was finally elected by a plurality of 293 votes among 7,000. The candidate's rather demagogic tendencies, his small plurality, and the wish to put an end to student participation in the elections, induced the teaching staff to submit a candidate of their own, after explaining their opposition to the present appointing system. Of sixty-seven full professors and sixty-seven assistant professors, 109 voted for Dr. Daniel Cranwell and sixteen for the students' candidate, who also received the votes of the fifty-five delegates who represented the medical and dental students. The nine delegates representing the pharmaceutic students, voted for another candidate. This is the first time since 1918 that a dean has been strictly elected by the professors' vote. The two previous deans, Drs. Lanari, full professor, and Iribarne, assistant professor, represented the choice of both profesors and students. In fairness to the students, it must be added that they accepted in good spirit the result of the vote.

Courses by Foreign Professors

Several professors will arrive soon to give postgraduate courses in Buenos Aires. From Italy, Professor Fichera will lecture on tumors; from France, Prof. G. Bertrand, of the Pasteur Institute, on biochemistry, and G. Duval, of the Paris Medical School, on surgery. Prof. P. del Río Hortega, the Madrid histologist, has been called by the Spanish Cultural Society. The Buenos Aires medical school has invited Prof. G. Bickel of Berlin to give a technical course. The dean of the Litoral Medical School, Dr. Rafael Araya, has just arrived from abroad, after entering into interchange agreements, as to professors and students, with the Paris and Vienna medical schools.

New Provincial Hospitals

April 5, the corner stone of the Justo José de Urquiza Policlinic in Concepción del Uruguay was placed. The building, when completed, will cost 756,000 pesos (about $300,000). The ceremonies were attended by the secretary of state, the governor of the province, and Dr. Cabred. Fifteen days afterward, the governor of Salta, who happens to be a physician, Dr. Güemes, witnessed the placing of the corner stone of the Hospital Regional del Norte at General Güemes. The estimated cost of this institution will be 1,713,000 pesos (about $685,000). It will be primarily devoted to malaria cases. Both institutions are being built by the national commission on homes and hospitals.

"Syphilis of the Llama"

There is a marked contrast among the praises devoted by the newspapers to Drs. Lancelotti and Jauregui, for their alleged inoculation of syphilis in the llama, and the attitude of scientists here. No one has verified their work, and so the real value of their experiments is completely unknown.

The experimenters have now visited the Pasteur Institute of Paris, and reported their studies to the Paris Academy of Medicine and at Genoa. According to their own statements, the claims met with approval, but the French journals merely state that the paper was presented. Private reports show that the Pasteur Institute has asked to have material submitted, in order to study the question; but the authors state that they are reserving their first reports for presentation in their own country.

Argentine Physicians to the United States

For the first time, two Argentine physicians have gone to the United States endowed with Rockefeller Foundation fellowships. Dr. J. T. Lewis of the Physiologic Institute has gone to Harvard, and Dr. Manuel Balado of the Institute of Surgery, to Rochester, Minn.

BERLIN

(From Our Regular Correspondent)

May 16, 1925.

Annual Session of the German Surgical Society

TWENTY YEARS OF TRANSPLANTATION RESEARCH

At the annual session of the German surgical society, held as usual in Berlin the middle of April, the main topic under discussion was Twenty Years of Transplantation Research. Professor Lexer of Freiburg stated that the field of transplantation has been greatly extended. However, homoplasty, operative replacement of lost parts or tissues by similar parts from individuals of the same species, has been frequently unsuccessful. Our endeavor must be to discover the conditions under which homoplastic transplantation can be successful. Bier's articles on regeneration, published a few years ago in the *Deutsche medizinische Wochenschrift,* emphasized that tissues, to be suitable for transplantation, must regenerate to remedy a gap or defect. The transplantation of whole organs has been disappointing. The regenerative processes may be merely the result of parenteral proteotherapy. Suggestion and resorption may simulate a successful outcome, but as yet no claimed permanent effects have withstood close critical examination. Only autoplasty has thus far produced successful results. A special study of hormones must be instituted if any progress in the transplantation of homologous parts from individuals of the same species is to be made. Pancreas, thyroid gland, pituitary body and suprarenals have been transplanted. Homoplasty has failed with reference to the kidney; only retransplantations have proved successful. Equally poor are the prospects of transplantation of entire limbs, though Bier and Carrel seem to have achieved some success with dogs; Lexer, however, had no success with similar experiments. The graft was retained for from twenty-two to twenty-four days and then was cast off, doubtless owing to the accumulation of toxic decomposition products of the musculature. Circulation through the graft had, however, functioned well for three weeks. On the other hand, limbs almost entirely severed will frequently heal, though seldom with complete restoration of function.

Homoplasty is more successful in animals than in man. In transplantations, the matter of race also plays a part. The new methods of skin grafting introduced by Braun and by Pels-Leusden have proved their efficacy. In general, epidermis transplantations and skin grafting are employed by no means frequently enough. The former heal and are successful in 90 per cent. and the latter in 75 per cent. of the cases. In the transplantation of a mucous membrane homoplasty is almost never successful. The use of the appendix, on which Lexer based some hopes, has been shown by Axhausen's experiments to be impracticable. Transplanted entodermal mucous membrane will not heal and become histologically a part of the old organism; an ectodermal mucous membrane, however, is more likely to do so. Bone transplantation has a wide range of application. Preferably bone with the periosteum and the marrow should be taken for transplantation. The process of healing and becoming histologically and functionally a part of the old organism may be divided into the stage of atrophy, the stage of histologic reconstruction, which begins in from three to four months, and if the periosteum is lacking, not until after one year, and the stage of functional reconstruction, which lasts for about one year, and if the periosteum is absent, about three years and a quarter. Great care must be taken not to allow the part operated on to bear any weight until it is sufficiently healed. If fractures or splitting occur, timely treatment will still produce good functional results. Lexer opposes the view that the reconstruction of the bone is partly due to metaplasia of the connective tissue. In bone transplantation autoplastic grafts heal most readily, but homoplastic bone grafts will heal and become a histologic part of the organism. Heteroplastic grafts cause irritation, which may be followed by suppuration and expulsion.

Lexer discussed also the transplantation of joints. He was himself the first to transplant a knee joint and a metatarsophalangeal joint. Transplantation of the whole joint with the soft parts is impossible; without the soft parts, it is successful. Here, too, great caution is required in the matter of weight bearing — even after several years. Transplantation of half a joint has also given good plastic results. Function is well restored, but here also too early weight bearing must be avoided. A good union with the articular capsule takes place. Lexer has discarded the use of screws or bolts. In some cases, permanent results extending over from three to six years have been secured. The transplantation of homoplastic joints has resulted only in the healing of the ununited graft, as the reaction is too great. The transplantation of cartilage presents no particular difficulty. Homoplastic grafts are successful; however, there is abundant autoplastic material available along the ribs and, if need be, in the ears. The perichondrium must accompany the graft. This method is employed a great deal for the reconstruction of the face. The transplantation of tendons was introduced by Gluck as early as 1880, but Lexer and Rehn were the first to give it clinical importance. Both autoplasty and homoplasty are successful. Before tendoplasty is resorted to, the joints concerned must be made readily movable; if necessary, with the aid of plastic operations, and the existing scars must all be excised. To avoid adhesions, sometimes padding with fat is used. From 80 to 95 per cent. of the cases of tendoplasty give good results. Occasionally Lexer has employed a strip of periosteum from the tibia in tendoplasty. Also the fascia lata can be used in tendoplasty. Lexer frequently uses fat tissue for transplantation. The disadvantage of fat tissue lies in its great tendency to bleed. It can be used autoplastically or homoplastically. Homoplastic grafts, however, cause greater reaction. In operations for hernia and in dura defects, the transplantation of fat has been successfully used for filling out bone cavities, whereas in the pleura and the diaphragm no satisfactory epithelial formation occurred. In 330 cases, large joints were mobilized in this manner. Of seventeen cases in which in patients without previous epileptic attacks dura defects were remedied by means of fat, only one had an epileptic attack; of seventeen cases in which epilepsy attacks had preceded, attacks were not induced in six. The transplantation of blood vessels has given excellent results, although homoplasty is very uncertain. The saphenous vein furnishes good material for autoplasty. The wall of the smaller vessel will adapt itself entirely to the caliber of

the larger vessel, as Lexer observed in a case of five years' standing. As to transplantation of nerves, it is too early to pronounce a final judgment. Preservation of the Schwann cells does not appear necessary; the nerve fibers must be preserved; the Schwann cells develop. The results are, of course, no better than in nerve suture, which is also of uncertain outcome. The free transplantation of muscles has not been successfully accomplished as yet.

In the discussion that followed, König of Königsberg emphasized the excellent results secured through the transplantation of fascia as introduced by Kirschner; he presented patients to show the later effects. In the Königsberg University Clinic, during the period from 1911 to 1922, 142 free fascia transplantations were performed as a form of tendoplasty, under strict indications; for example, to close the hernial opening in large hernias or in recurring hernias; as a tamponade to effect hemostasis, or as a substitute for the Thiersch metal ring in prolapse of the rectum. It was also employed to construct a restraining band in habitual luxation of the shoulder, and in four cases there has been no recurrence during the last twelve years. The constriction of the pylorus, which was tried, has been abandoned. He emphasized also the superiority of fascia to fat transplantation to remedy dural defects. Von Hofmeister of Stuttgart presented a number of patients in whom deep roentgen-ray ulcers had healed after complete excision of the wound and skin grafting. Von Eiselsberg of Vienna reported good results obtained in Parkinson's disease by the implantation of the parathyroid glands of a calf or horse. He corrected a false report in the literature as to the supposedly permanent results secured in a case of tetany. In one case in which a thyroid had been implanted in the abdominal cavity, an adenoma was found at necropsy in the liver region, which was doubtless due to the implanted thyroid. Not the thyroid tissue but the adenoma had flared up. Mühsam of Berlin performed eight operations on seven patients for homosexuality. The transplanted testis seemed to exert a good effect at first, but no lasting effects were secured, with the possible exception of a very mild case. Unterberg of Königsberg, transplanted the healthy portion of diseased ovaries in sections 2 mm. thick into the anterior abdominal wall. Some of the patients retained the menses for some time. The results are less favorable in hypofunctioning of the ovaries. Transplantation of the tubes was undertaken to restore fertility when the lumina were interrupted by adhesions. In three cases prompt conception occurred once. Lexer, in his closing remarks, denied the superiority of fascia as compared with fat tissue. He warned also against transplantation of periosteum for mobilization of joints, especially in children.

Nagel of Berlin emphasized the importance of taking a series of photographs under exactly the same conditions each time for comparison in plastic surgery. He explained an apparatus that made this possible.

INTESTINAL OCCLUSION

The second main topic, intestinal occlusion, was discussed by Professor Perthes of Tübingen. His experience covers 203 cases, with 131 (65 per cent.) recoveries and 72 (35 per cent.) deaths. In the treatment of acute intestinal occlusion, he regards the prevention and elimination of intestinal paralysis as the most important problem. Intestinal paralysis occurs not only as the result of circulatory disturbances but earlier, as the immediate result of the dilatation of the intestine owing to stasis of its contents. Paralysis due to stretching can be remedied by relieving the intestine, provided no severe circulatory disturbances have occurred. The old view that death from intestinal occlusion is occasioned by autointoxication deserves much more attention than it has received heretofore in Germany. Acute mechanical intestinal occlusion must usually receive operative treatment from the beginning. Only in occlusion of the mesenteric arteries, gallstone and appendical occlusion, and in invagination in infants, is a cautious attempt at nonoperative treatment for a short time to be approved. If the condition of the patient will in any wise permit, after exhausting the nonoperative diagnostic expedients, an operation must be resorted to in order to determine the nature and the site of the obstruction or to confirm the diagnosis. In all forms of strangulation, in invagination, volvulus and occlusion by cicatricial band, operation should be primarily adopted to remove the obstruction. In acute occlusion due to a tumor, radical treatment should be postponed and relief of the intestine through a fistula instituted. Kinking due to adhesions should be treated either by enterostomy or, after surgical evacuation of the intestine, by avoidance of the obstruction by means of enteroanastomosis. Only in exceptional cases of ileus due to adhesions is it practicable to break up the adhesions. In enterostomy of the large intestine, which in ileus due to a tumor is best done on the cecum, the broad opening of the intestine is to be preferred. In very many cases a partial eventration is the method of choice. In intestinal occlusion with considerable intestinal contents, it is advisable to relieve the intestine either through liberation of gases by means of several punctures or through surgical evacuation of the intestine, before seeking the cause of the obstruction. If the intestine is only moderately filled, good results may be secured in selected cases through the elimination of the obstruction without an auxiliary operation. Cases in which an operation was performed in the early stages without any auxiliary procedure gave a 21 per cent. mortality. Cases in which, on account of a high degree of flatulence, an auxiliary operation or a resection was carried out showed 56 per cent. mortality. In acute intestinal occlusion, recovery depends primarily on the promptness with which the operation is performed.

In the discussion that followed, Körte of Berlin gave an account of the results secured in 236 operations for mechanical intestinal occlusion, excluding ileus due to tumor, enterospasm and paralysis due to peritonitis. The mortality was 42 per cent. In the operations performed the first day, the mortality was 19 per cent.; in those performed the second day, the mortality was 32 per cent., and still higher when the occlusion had persisted more than two days. In infants under 1 year old the mortality was greatest; in children aged from 1 to 10 it was the lowest, and rose then gradually to 55 per cent. for the age of 70; while the oldest patient (83) recovered. The diagnosis of intestinal occlusion is usually easily reached, but the recognition of the nature of the occlusion is possible only in certain types. In strangulation, the greatest caution is necessary on account of the danger of perforation. The evacuation of the overfilled intestinal loops is very important. Eighty-three cases in which evacuation was carried out gave only 24 per cent. mortality. Intestinal gangrene requiring resection gave 63 per cent. mortality in twenty-seven cases. Anschütz of Kiel reported on 300 cases. He regards the diagnosis of the kind of ileus as possible in only one half to two thirds of the cases, but one should operate as soon as the diagnosis "ileus" is reached — even in infants. Among the characteristic symptoms, he mentions the splashing sound, the hippocratic succussion. He operated only twice under a wrong diagnosis (cirrhosis of the liver and metastases of the liver). He, too, emphasized the importance of an early operation. Resection in young children is very dangerous. In forty-two cases with fistula the mortality was 60 per cent.; in 200 without fistula, only 30 per cent. Kirschner of Königsberg

advises as complete evacuation of the intestine as possible by means of the modified Moynihan glass tube and an aspirator. In one case he was able to evacuate 5 liters in this manner within a few minutes. The overdistention is eliminated; closing of the abdominal wall is easily accomplished, and the intestine is allowed to rest several days. In suitable cases, however, a radical operation may follow the evacuation of the intestine. Von Hofmeister of Stuttgart performed enterostomy much more frequently than most of the speakers—not as an emergency operation but as a form of prophylaxis. Von Eiselsberg of Vienna called attention to a diagnostic point; namely, during the rectal examination, high up a transverse flatulent intestinal loop will be felt. König of Würzburg advised as early operative treatment as possible in ileus; but, recalling the death of a patient with spastic ileus, in which an operation would not have been necessary, he warned against laparotomies for diagnostic purposes. Collaboration with a clinician experienced in internal diseases is here needed, since roentgenologic examinations cannot be relied on.

VIENNA

(From Our Regular Correspondent)

May 23, 1925.

The Hygienic Exposition in Vienna

The relations between public health work, social hygiene and the education of the masses as to hygienic needs are emphasized at the hygienic exposition in Vienna. Social hygiene can be defined as "biologically applied ethics." From that point of view, it will be readily understood why the exposition is divided into three exhibits: (1) man; (2) the new household, and (3) hygiene. The second exhibit, comprising a demonstration of time and labor saving utensils and machines, is of less interest to physicians than the other two. Many of the exhibits were brought from Dresden, from the collections of the Dresdner Deutsches Hygiene-Museum on the primeval history of man, eugenics, and the human body. The collections are housed in a large hall in the center of the city. Exhibits of the Vienna school of medicine and of the clinics of Graz and Innsbruck are to be found on a lower floor. The collected exhibits of Vienna depict the arrangements of the welfare and public health departments; there are demonstrations of the hydraulic works of various provinces of our republic; the water supply of large cities; statistical charts, and the displays of the social insurance institutes (workmen's health insurance societies, welfare work among consumptives, aid for war veterans, and other similar agencies). The league of the Red Cross societies has a pavilion of its own and an interesting exhibit, while in an auditorium popular lectures on scientific subjects are being given by a group of scientists.

To get a comprehensive idea of the exposition requires many visits, but even a hasty survey will reveal much of interest to the physician. The exhibit of the Vienna college of medicine attracts especial attention: The physiologic institute, of which Professor Durig is director, displays apparatus and demonstrates the methods used for the determination of the consumption of energy in walking. The pathologico-anatomic institute (Professor Maresch, director) exhibits anatomic preparations preserved by a new method, so that the specimens, together with those of the anatomic institute (Professor Tandler, director) appear in their natural colors. A collection of anatomic specimens, wax models and pictures, from the institute for legal medicine (Professor Haberda, director) deals with poisoning, accidental injuries, accidents due to electricity (Professor Jellinek) in the form of lightning and high-power current, and cases of abortion. In the exhibit of the histologic institute (Professor Störck, director) are seen anatomic models illustrating the development of the kidney. The Finger clinic shows wax models of diseases of the skin and hair, some caused by parasitic fungi and others of industrial origin; also Professor Oppenheim has an instructive collection on the same subject. One notes, furthermore, preparations and colored photographs illustrative of favus, microsporia, trichophytosis and scabies, together with demonstrations of the prophylactic and curative methods for combating them. Tuberculosis of the bones and joints, as well as congenital malformations, are well illustrated by the orthopedic-surgical clinic (Professor Lorenz, director). The children's clinic (Professor Pirquet) illustrates the methods for combating tuberculosis in children. Tables and reproductions explain the bases of the Pirquet system of nutrition of children. The Hajek and Neumann clinics exhibit foreign bodies from the upper air passages; also tables and illustrations explaining the significance of adenoids, diseased tonsils and otogenous septic processes. From the eye clinic we find diagrams and wax models elucidating glaucoma and its early symptoms; stereoscopic pictures on important diseases of the eye, hygiene of the eye, and foreign bodies. A large collection of roentgenograms illustrates the development and retrogression of pulmonary tuberculosis, and the possibilities of influencing it by such treatment as is given in the hospitals of Vienna (Professor Neumann; Sorgo and Eisler). Another collection of roentgenograms deals mainly with tuberculosis of the bones and the viscera (Haudek); a third set shows the effects of treatment in lupus (Professor Volk). The Eiselsberg clinic displays apparatus used in blood transfusion; heart injuries, specimens illustrative of brain surgery, as well as arrangements for first aid in accidents. The Hochenegg clinic exhibits its famous collection of bladder, kidney and gallbladder stones; also foreign bodies from the various hollow organs (stomach, esophagus, rectum, urethra, bladder), some of which were introduced into the body through accident and others with suicidal intent. The policlinic shows the otologic models of the normal and the pathologic ear prepared by Professor Alexander, together with stereoscopic pictures and moulages; also roentgenograms for urologic, surgical and internal diagnosis, prepared by Professor Kienböck. Professor Lindner has an exhibit of preparations and pictures pertaining to trachoma and other infections of the conjunctiva. Professor Masschik demonstrates the use of apparatus employed in bronchoscopy and esophagoscopy. Professor Nobl demonstrates the methods of treating varicose veins of the leg, and shows also pictures demonstrating the involvement of the skin in tuberculosis, syphilis and cancer. Professor von Wunschheim exhibits the famous Carabelli collection of ivory sets of teeth from the beginning of the nineteenth century; also a large collection of pathologic and anatomic specimens and models of sound and diseased teeth.

In the department of social medicine the physician finds instructive tables and documents, for instance, tables showing how the average duration of illness of members of health insurance societies has been materially shortened. By the early employment of medical assistance, thousands of dollars in hospital charges and cash benefits were saved in one month and the loss of wages was reduced to a minimum. A comparison of six almost identical cases shows concretely the advantages of prompt medical assistance. The methods of combating tuberculosis in sanatoriums and open-air corridors are shown in a large number of models of houses and institutions such as have been erected by the communes, the health insurance societies and the Red Cross. The establishment of rural colonies for sick children, the securing of high-grade milk, and the kind of gymnastic exercises used there;

the providing of pure drinking water for localities; the care of persons injured or suddenly taken ill on railway journeys; the provision of resorts for convalescents among the more dependent members of the middle class—a special feature of social welfare work in which our republic may be said to have taken the lead in Europe—all contribute toward affording investigators an opportunity of familiarizing themselves with the efforts that are being made by the authorities and social organizations to improve health conditions among the people.

Whereas in the foregoing exhibits the physician could find much that was instructive, the department designated "Der Mensch" (mankind) is intended more for the general public. Its purpose is to give the "man on the street" a better insight into the nature and mode of functioning of his own body, and to teach him the necessity of living in accordance with the laws of hygiene and medicine. The collection is divided accordingly into the following groups: bones and muscles, circulation, nutrition, digestion, elimination, and organs of sense. We see, for instance, a model of the human heart with the afferent and efferent vessels, the heart made of rubber and the blood vessels of glass, filled with a colored fluid and the circulation kept up by a small motor, so that the observer may see exactly how the heart valves and muscles function. He sees the blood circulate through the large arteries; he sees the blood enter the lungs, the liver and the kidneys, and thence, after permeating the capillary system, return again to the heart. This display is surrounded constantly by hundreds of spectators. Furthermore, the pumping power of the heart is illustrated by a vessel containing 360 liters of colored water, which represents the quantity of blood that is pumped by the heart into the body in half an hour. It is also shown in glasses how much of the blood is water and how much consists of solids. The various substances of which the body is composed are also shown graphically. The process of nutrition in the body is illustrated by large models of the intestinal tract showing the papillae that take up the nutritive fluid. The nutritive value of various foods is shown not only in diagrams but also by microscopic and macroscopic preparations of the liver. There is also an immense model of a human mouth, together with the pharynx, which is movable and imitates the act of swallowing. The process of breathing, the gas exchange in the alveoli, the blood supply of the lungs and the circulation in the lungs are shown by large models. A spirometer enables every visitor to measure his own lung capacity; in fact, there are many kinds of apparatus that may be used by the public: dynamometers to test the finger and body muscles; sirens to produce loud blasts; apparatus to demonstrate the action of the larynx and to show how the voice is produced; models of the eye to show how the rays of light pass through the normal and the diseased eye; models of the ear, which illustrate the power of hearing and the sense of equilibrium; also models of the kidney in the embryo, the infant and in adults. In addition, there are many preparations in alcohol and solution of formaldehyd, so that the spectator may get a correct impression of the natural size and position of various organs. A display of skeletons and joints shows how the movements of the body originate and are carried out. Models and pictures of prehistoric and early historical remains show the development of man to the stage of *Homo sapiens*. The public finds, however, much greater interest in the department called "The Transparent Man." Here are displayed a large number of natural preparations which, through the application of peculiar methods (decalcification and the action of glycerin, together with injection of a coloring matter after the method of Professor Spalteholz) have been made transparent. This collection is displayed in a darkroom, and, after the manner of roentgen plates, is viewed with the objects between the observer and the light, which gives an excellent plastic picture; for example, the development of the human embryo from the twelfth day on, week by week, which is an interesting collection for the physician as well; the development of the embryonic skeleton, the brain, and the viscera, and then the same organs in adults, with their blood supply and the nerves—the placenta, the gravid uterus—all transparent. In an adjoining room is a display of the important field of dentistry, beginning with the preservation and prosthetic methods of antiquity and coming down to the most modern conceptions. Of interest are the artificial teeth inserted in wood, dating from the eighteenth century; also the reconstructed teeth of the ancient Egyptians and the primitive races of the South Sea and Africa.

An endeavor is made to enlighten the public in the application of hygienic principles. For example, in the dental department there is a series of pictures showing how a person, owing to neglect of the teeth, loses first one tooth and then several, and develops an illness due to poor mastication, whereas proper cleaning of the teeth keeps a person well and able to work. In the department in which the respiratory organs are portrayed there are pictures showing how coughing, playing in the dust and dirt, and kissing of young children by diseased adults may spread infection, especially tuberculosis, and how air, sunlight and cleanliness kill tubercle bacilli. Hygiene of the eye, particularly, protection against too bright or too weak illumination; the necessity of gymnastics and body culture for the child and youth; the importance of sport and rest in the open air for adults—all that is shown graphically; also the value of pure drinking water and how it should be secured. A few of the topics treated in the lectures and motion picture presentations are: the technic of respiration, the production of the voice, the hygienic aspects of married life, the birth of a human being, psychotechnics (testing of functions in connection with various forms of work), the care of infants, goiter and how to combat it, school hygiene in large cities, women in the professions, the importance of a healthy skin, aid to railway travelers, first aid in accidents, and gymnastics for cripples. Another excellent feature is that classes from schools, societies, and various other groups come in a body to visit the exposition. In such cases the explanations given are adapted to the needs of the group. The great interest that the whole population is showing in the exposition proves how great is the need for such educational propaganda.

Marriages

KENNETH B. TURNER, Lynchburg, Va., to Miss Helen Forbes McIlvaine of Chicago, at New York, June 9.

PAUL E. LOUDENSLAGER, Harrisburg, Pa., to Miss Mary E. Houston of Philadelphia, April 29.

JEREMIAH J. SULLIVAN to Miss Josephine Mae Calman, both of Steelton, Pa., May 20.

CAN MARTIN BENTLEY, Fleming, Ky., to Miss Sallie H. Douglas of Louisville, June 3.

ERNEST E. MARTIN, Wayland, Ky., to Miss Grace Lee Bayers of Louisville, June 16.

FREDERICK WILLIAM SUNDERMAN to Miss Clara L. Baily, both of Philadelphia, June 2.

JACQUES PIERRE GUEQUIERRE to Dr. Alice Grace Charlton, both of Milwaukee, June 8.

LOUIS O'BRASKY to Miss Marion Press, both of New Haven, Conn., June 7.

MONTE EDWARDS to Miss Constance Isabel Gilchrist, both of Baltimore, June 6.

Deaths

John Addison Fordyce ✙ New York; professor of dermatology and syphilology, Columbia University College of Physicians and Surgeons, died, June 4, following an operation for appendicitis. Dr. Fordyce was born in Ohio in 1858, and graduated from the Chicago Medical College in 1881 and the University of Berlin, Germany, in 1888. Prior to his association with Columbia University, he was a member of the faculty of the Bellevue Hospital Medical College, and from 1888 to 1896 was editor of the *Journal of Cutaneous and Genito-Urinary Diseases*. He was consulting dermatologist to the Neurological Institute, the Women's Hospital and the Presbyterian Hospital, and attending dermatologist to the City Hospital. Dr. Fordyce was a member of the House of Delegates of the American Medican Association in 1908, and a member of the American Dermatological Association and many other scientific societies in this country, Europe, South America and Japan. He was contributor to many standard medical works and the author of numerous papers published in medical journals.

William Henry Davis, Denver; Indiana Medical College, Indianapolis, 1871; Bellevue Hospital Medical College, New York, 1876; member of the Colorado State Medical Society, and the American Urological Association; emeritus professor of dermatology, University of Colorado School of Medicine, Denver; formerly president of the state board of health; at one time coroner of Jefferson County, Ind.; superintendent of the Indianapolis City Hospital, 1877-1879; dermatologist to the Denver General, St. Luke's, St. Anthony's and Mercy hospitals; aged 76; died, May 27, of uremia.

Isaac Minis Hays, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1868; secretary general of the International Medical Congress, 1876; formerly secretary of the American Philosophical Society; member of many scientific societies; author of chronology of Benjamin Franklin and other books; editor of the "American Journal of Medical Sciences," 1869-1890, The Medical News, 1869-1889, and American editor of Soelberg Wells on Diseases of the Eye; aged 77; died suddenly, June 5, of heart disease.

Samuel Johnston, Baltimore; Jefferson Medical College of Philadelphia, 1870; member of the Medical and Chirurgical Faculty of Maryland; past president of the American Laryngological Association; on the staffs of the Baltimore Eye, Ear and Throat Hospital and the Church Home Infirmary; aged 77; died, June 3, of cerebral hemorrhage.

Samuel Sparhawk, Burlington, Vt.; University of Vermont College of Medicine, Burlington, 1893; Hahnemann Medical College and Hospital of Philadelphia, 1893; member of the Vermont State Medical Society; medical director of a sanatorium bearing his name; aged 57; died, May 22, of pneumonia.

John A. McColl ✙ Grand Rapids, Mich.; Bellevue Hospital Medical College, New York, 1886; formerly city commissioner; for fifteen years member of the board of education; on the staff of the Butterworth Hospital; aged 67; died, May 26, at a hospital in Battle Creek, following an operation.

Forest Eugene Culver, Chicago; Chicago Homeopathic Medical College, 1903; Hahnemann Medical College and Hospital, Chicago, 1905; member of the Illinois State Medical Society; on the staffs of St. Joseph's and Illinois Masonic hospitals; aged 49; died, May 29, of uremia, following scarlet fever.

Wilhelmina Jacoba Jongewaard, Jhelum, Punjab, India; University of Illinois College of Medicine, Chicago, 1914; served as a United Presbyterian missionary; formerly of Indianapolis, and recently engaged in child welfare work in Indiana; aged 37; died, May 4, of Asiatic cholera.

Charles Richard Lockwood ✙ Kankakee, Ill.; University of Illinois College of Medicine, Chicago, 1902; served in the M. C., U. S. Army, during the World War; specialized in ophthalmology, otology, laryngology and rhinology; aged 48; died, May 23, of tumor of the brain.

Edith Bronson ✙ San Francisco; Johns Hopkins University Medical School, Baltimore, 1913; assistant professor of pediatrics, University of California Medical School; on the staff of the Stanford University Hospital; aged 38; was drowned, May 27, in the Merced River.

Isaac Newton Fowler, Lebanon, N. H.; University of Vermont College of Medicine, Burlington, 1893; member of the New Hampshire Medical Society; aged 56; died, in May, at the Mary Hitchock Hospital, Hanover, of pulmonary embolism following an appendectomy.

Henry F. Pflueger, Philadelphia; Medico-Chirurgical College of Philadelphia, 1895; formerly instructor of pediatrics at the Temple University Department of Medicine; at one time on the staff of the Samaritan Hospital; aged 60; died, May 25, of cerebral hemorrhage.

George T. Thomas, Amarillo, Texas; Fort Worth School of Medicine, Medical Department of Fort Worth University, 1906; member of the State Medical Association of Texas; served in the M. C., U. S. Army, during the World War; aged 42; died, March 18.

Frank Ressler Weiser ✙ Windom, Minn.; Jefferson Medical College of Philadelphia, 1891; formerly member of the board of education and member and past president of the state board of medical examiners; aged 60; died, May 22, of cerebral hemorrhage.

Andrew Armour Robertson, Montreal, Que., Canada; McGill University Faculty of Medicine, 1894; lecturer in medicine at his alma mater; on the staff of the Montreal General Hospital; aged 54; died, March 25, of steptococcus septicemia.

Delos N. Reeve, Allison, Iowa; Medical Department of Columbian University, Washington, D. C., 1896; member of the Iowa State Medical Society; aged 55; died, May 17, at the St. Joseph's Mercy Hospital, Waverly, of chronic nephritis.

Luther Scott Clagett, Baltimore; Long Island College Hospital, Brooklyn, 1868; Jefferson Medical College of Philadelphia, 1877; member of the Medical and Chirurgical Faculty of Maryland; aged 81; died, May 17, of heart disease.

Henry Frederick Adams ✙ Brooklyn; Medical Department of Columbia College, New York, 1890; member of the Radiological Society of North America; on the staff of the Bushwick Hospital; aged 57; died, May 17, of pneumonia.

Robert H. P. Ellis, Paterson, N. J.; University of Maryland School of Medicine, Baltimore, 1877; formerly emeritus professor of materia medica and therapeutics, Baltimore Medical College; aged 71; died, May 24.

Sidney Francis Braud ✙ New Orleans; Tulane University of Louisiana School of Medicine, New Orleans, 1914; served in the M. C., U. S. Army, during the World War; aged 34; died May 18, of pulmonary tuberculosis.

Isaac Linton Doughty ✙ Corona, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1898; formerly on the staff of the Flushing (N. Y.) Hospital; aged 54; died, May 20, of cerebral embolism.

Philip Alvin Zaring, Brownstown, Ind.; Vanderbilt University School of Medicine, Nashville, Tenn., 1893; aged 65; died, May 18, at the Schneck Memorial Hospital, Seymour, following an operation for gallstones.

William Henry Edmondson, Christiansburg, Va.; Medical Department of the University of the City of New York, 1861; member of the Medical Society of Virginia; aged 77; died suddenly, May 15, of heart disease.

Samuel T. Cade, Willington, S. C.; University of the South Medical Department, Sewanee, Tenn., 1898; member of the South Carolina Medical Association; aged 50; died, May 18, of a self-inflicted bullet wound.

Ellis Ellsworth Mathews, Des Moines; Ohio State University College of Medicine, Columbus, 1909; member of the Iowa State Medical Society; aged 51; was found dead in bed, May 18, of heart disease.

Seth L. Sloan, Ravenna, Ohio; Western Reserve University School of Medicine, Cleveland, 1884; member of the Ohio State Medical Association; aged 67; died, in May, of heart disease.

Walter L. McCanless, Danbury, N. C.; Medical Department of the University of the City of New York, 1893; aged 61; died, May 27, at a hospital in Winston-Salem, following a long illness.

Frank M. Kistler, Royal Center, Ind.; Eclectic Medical Institute, Cincinnati, 1893; member of the Indiana State Medical Association; aged 56; died, May 20, of cerebral hemorrhage.

Robert Fawcett, Baltimore; University of Maryland School of Medicine, Baltimore, 1892; served in the Spanish-American War; aged 58; died, May 27, of cerebral hemorrhage.

Albert Earle Holmes ✙ Salem, Va.; Vanderbilt University School of Medicine, Nashville, Tenn., 1916; on the staff of

the Mount Regis Sanatorium; aged 31; died, May 21, at Roanoke.

Joseph Howard North, West Cornwall, Conn.; Long Island College Hospital, Brooklyn, 1873; member of the Connecticut State Medical Society; aged 78; died recently, of angina pectoris.

Thomas Byrnes, Davenport, Iowa; State University of Iowa College of Medicine, Iowa City, 1893; member of the Iowa State Medical Society; aged 53; died, May 25, of angina pectoris.

Charles S. Watson, Saginaw, Mich.; Kentucky School of Medicine, Louisville, 1894; member of the Michigan State Medical Society; aged 72; died, May 15, following a long illness.

Jacob Owen Carpenter, Clifton, Texas; Fort Worth School of Medicine, Medical Department of Texas Christian University, Fort Worth, 1911; aged 37; was shot and killed, May 15.

John Pearl Cowman, Oklahoma City; Birmingham (Ala.) Medical College, 1903; member of the Oklahoma State Medical Association; aged 46; died, May 17, at a hospital in St. Louis.

Frank W. Shumway, Lansing, Mich.; University of Wooster Medical Department, Cleveland, 1881; formerly secretary of the state board of health; bank president; aged 67; died, May 24.

James Grey Thomas, Montgomery, Ala.; University of Alabama School of Medicine, Tuscaloosa, 1898; aged 54; died, May 15, at an infirmary in Mobile, of chronic nephritis.

William D. Babcock, South Pasadena, Calif.; Medical College of Evansville, Ind., 1878; aged 74; died, May 26, at the California Lutheran Hospital, Los Angeles, of heart disease.

Vincent DePaul Buckley ✠ San Francisco; University of California Medical School, San Francisco, 1884; aged 65; died, May 17, of cerebral hemorrhage and arteriosclerosis.

Robert M. Stewart, Santa Ana, Calif.; Physio-Medical Institute, Cincinnati, 1870; formerly a practitioner in Missouri; aged 86; died, May 23, of cerebral hemorrhage.

Horace L. Rose, Camden, N. J.; Jefferson Medical College of Philadelphia, 1903; member of the Medical Society of New Jersey; aged 50; died, May 22, of pneumonia.

Edward Francis O'Malley, Fitchburg, Mass.; Baltimore Medical College, 1904; member of the Massachusetts Medical Society; aged 45; died, May 11, of pneumonia.

Malcue Gill Thompson, Pine Bluff, Ark.; University of Louisville (Ky.) School of Medicine, 1878; member of the Arkansas Medical Society; aged 75; died, May 14.

Richard S. Kester, Wauseon, Ohio; Hahnemann Medical College and Hospital, Chicago, 1883; Civil War veteran; aged 78; died, May 1, following a long illness.

Richard Ira Mattice, Winnipeg, Man., Canada; McGill University Faculty of Medicine, Montreal, 1875; aged 78; died, March 31, at the Victoria Hospital.

Halbert Lynn Keith ✠ Milford, Mass.; University of Vermont College of Medicine, Burlington, 1885; aged 65; died, May 28, of heart disease and diabetes mellitus.

Jacob Wellington Hawk ✠ Green River, Wyo.; College of Physicians and Surgeons, Keokuk, Iowa, 1882; aged 67; died, May 15, at Pinedale, of angina pectoris.

William Lewis Bullard, Columbus, Ga.; Atlanta Medical College, 1877; formerly member of the board of health; aged 73; died, May 18, of cerebral hemorrhage.

Oscar Scott Steward, Chicago; Eclectic Medical Institute, Cincinnati, 1882; aged 68; died, June 6, at the Augustana Hospital, of hypertropy of the prostate.

Franklin G. Greenwell, Huntertown, Ind.; Western Reserve University School of Medicine, Cleveland, 1876; for four years state senator; aged 74; died, May 23.

Herman John Betten, Spokane, Wash.; Rush Medical College, Chicago, 1900; aged 54; died, May 21, at St. Luke's Hospital, following a long illness.

Charles Ellsworth Bush ✠ Cromwell, Conn.; Yale University School of Medicine, New Haven, 1894; aged 55; died recently, of cerebral hemorrhage.

Walter Edward Burke, Portland, Me.; McGill University Faculty of Medicine, Montreal, Que., Canada, 1923; aged 29; died, May 2, of lobar pneumonia.

W. B. Kroesen, Evanston, Ill.; Cincinnati College of Medicine and Surgery, 1873; Civil War veteran; aged 85; died, May 18, of cerebral hemorrhage.

Bartholomew Francis Flanagan, Chicago; University of Illinois College of Medicine, Chicago, 1898; aged 54; died, May 27, of cerebral hemorrhage.

Peter Douglas McIntosh, Kitchener, Ont., Canada; University of Toronto Faculty of Medicine, 1920; aged 30; died, March 22, at Rochester, Minn.

William J. Sullivan, Superior, Wis.; Michigan College of Medicine and Surgery, Detroit, 1897; aged 54; died, May 12, following a long illness.

J. P. Gariepy, Detroit; Victoria University Medical Department, Toronto, Ont., Canada, 1876; aged 83; died, in May, following a long illness.

Louis John Matlock, Kennett, Mo.; Barnes Medical College, St. Louis, 1904; aged 60; died, May 24, of chronic nephritis and heart disease.

James M. Larimore, Greenfield, Ind.; College of Physicians and Surgeons, Keokuk, Iowa, 1867; Civil War veteran; aged 86; died, May 19.

Emil V. Dittlinger, St. Louis; Homeopathic Medical College of Missouri, St. Louis, 1885; aged 66; died, May 15, of heart disease.

Augustus Walter Suiter ✠ Herkimer, N. Y.; Medical Department of Columbia College, New York, 1871; aged 75; died, May 28.

Carl Frederick Roh, Tecumseh, Neb.; University Medical College of Kansas City, 1892; aged 59; died, May 13, at Kansas City.

J. H. Chapman, Lufkin, Texas; Memphis Hospital Medical College, 1893; aged 72; died, March 2, of cerebral hemorrhage.

George A. Phillips, Columbus, Ohio; Pulte Medical College, Cincinnati, 1890; aged 67; died, May 21, following an operation.

Alexander Taylor, Goderich, Ont.; Canada; Victoria University Medical Department, Toronto, 1871; aged 78; died, March 28.

Kate Chamberlayne Fiske, Chattanooga, Tenn.; Boston University School of Medicine, Boston, 1878; aged 83; died, May 23.

William Andrew Bryson, Evart, Mich.; Physio-Medical College of Indiana, Indianapolis, 1889; aged 68; died, in May.

Henry L. Abernethy, Hickory, N. C.; Louisville (Ky.) Medical College, 1886; aged 62; died, May 15, of heart disease.

Abraham Raymond, Los Angeles; Medical Department of the University of the City of New York, 1887; aged 66; died, in May.

Moses Y. Sellers, Moulton, Iowa; College of Physicians and Surgeons, Keokuk, 1880; aged 85; died, May 19, of senility.

John Stuart Brookman, Coronation, Alta., Canada; Bellevue Hospital Medical College, 1895; aged 50; died, March 6.

J. A. Waters, Fordyce, Ark.; Missouri Medical College, St. Louis, 1885; also a druggist; aged 66; died suddenly, May 26.

John A. Robson ✠ Hall, N. Y.; Albany Medical College, 1886; aged 64; died suddenly, May 10, of cerebral hemorrhage.

John C. Box, Ottumwa, Iowa; Bennett College of Eclectic Medicine and Surgery, Chicago, 1886; aged 72; died, May 18.

George Richard Phillips, Washington, D. C.; Bellevue Hospital Medical College, New York, 1869; aged 81; died, May 1.

O'Dillon B. Whitford, Butte, Mont.; American Medical College, Eclectic, Cincinnati, 1856; aged 91; died, in May.

Daniel Webster Colcord, Newburyport, Mass.; Albany (N. Y.) Medical College, 1874; aged 74; died, April 28.

Ernest Harold Hickman ✠ Kane, Pa.; Starling Medical College, Columbus, Ohio, 1903; aged 47; died, May 18.

Stephen Fugate, Dubois, Pa.; University of Michigan Medical School, Ann Arbor, 1877; aged 66; died, May 17.

David Lowrey, Toronto, Ont., Canada; Trinity Medical College, Toronto, 1879; aged 78; died recently.

Barney Welty, Chicago; Rush Medical College, Chicago, 1887; aged 63; died, May 12, of carcinoma.

Oscar T. Sears, Toledo, Ohio; Starling Medical College, Columbus, 1882; aged 71; died, May 25.

William G. Nicholson, Harmony, N. C.; Louisville Medical College, 1881; aged 76; died, May 20.

Joseph M. Hanks, Blum, Texas; Louisville (Ky.) Medical College, 1886; aged 65; died, May 16.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

THE DEFENSIVE DIET LEAGUE OF AMERICA

A Food Fad Organization that is Making a Special Appeal to the Dental Profession

During the last eighteen months, letters of inquiry have come in from physicians, dentists, public health officials and laymen asking for information regarding the Defensive Diet League of America. A physician who was commissioner of health for a large midwestern city wrote:

"At a meeting of the ———— County Dental Society last night to which I was invited, I had to listen to Mr. George E. Harter, who was introduced as the president of the Defensive Diet League of America. Mr. Harter hails from Toledo and by his own admission has devoted twenty-five years of his life to the subject of diet and health. What information have you concerning Mr. Harter and the Defensive Diet League of America?"

A state supervisor of nutrition wrote:

"I recently received literature put out by the Defensive Diet League of America, Toledo, Ohio. Their claims are so preposterous that I am wondering if you could give me any definite information as to what the League is and the type of man who is in charge of it."

The instructor in home economics in the state university of one of the northwestern states wrote:

"What can you tell me concerning Mr. G. E. Harter, head of the Defensive Diet League of America? Has he had education of the character that would justify him in giving advice along dietary lines? I notice that he quotes Tilden of Denver quite as frequently as he does McCollum and others of recognized scientific background."

A North Carolina physician wrote:

"Please send me information relative to the Defensive Diet League of America and the literature they publish. It seems that their clientele consists mainly of dentists who are putting patients on all sorts of fool diets."

The Defensive Diet League of America seems to be the brain-child of one G. E. Harter of Toledo. According to Harter's own admission in the Defensive Diet League literature, he is part owner of the Ransom and Randolph Co. of Toledo, a concern that manufactures and deals in dental supplies. Furthermore, Harter says: "I earn my bread and butter by managing the *Dental Summary*." The *Dental Summary*, a commercially owned publication, published by the Ransom and Randolph Co., in type and character is reminiscent of some of the commercially owned medical journals that flourished twenty years ago and did so much to dominate therapeutics and debauch scientific medicine.

Under the circumstances it was perhaps natural that Mr. Harter, in attempting to float his Defensive Diet League, should attempt to enlist the attention of the dentists of the country in his scheme. And he seems to have been fairly successful, appearing before dental societies and in other ways making use of such organizations as the dentists have. Part of Harter's plan seems to be that of making dietetic experts of the dentists. He appeals to that profession in these words:

"I know what it is going to mean to every man who takes it up earnestly. He is going to get more patients, he is going to get better fees for fifteen to twenty minutes advice as a dietetic expert than he ever got for an hour's labor at the chair. . . . I am very sure that back of all this thing in my mind there is the ruling desire that more dentists be enabled to acquire a competence during their comparatively few productive years. I hope enough has been said to emphasize the earning possibilities of this new phase of dental service."

At the first annual meeting of the League, which was held in September, 1923, and at which the statement just quoted was made by Mr. Harter, this gentleman also admitted that up until that time the League had been a "one-man affair," and that he, Harter, had done and directed everything that had been done. At the time he told the assembled dentists that if he was to remain in the work he would not be willing to turn the League over to any man or group of men that he would have to "consult and please." He suggested, however, that a dentist be selected from each state in the Union who would be the state chairman of the Defensive Diet League. A reading of the proceedings of this first meeting gives the impression that Mr. Harter had the convention, as it were, in his pocket. At any rate, the assembled dentists authorized Mr. Harter to pick his own state chairmen, who in turn, if they felt like it, could elect a general chairman.

THE MEDICAL ADVISORY BOARD

In addition to the various dental state chairmen there has also been created a Medical Advisory Board. Whether these men were also picked by Mr. Harter does not appear, but the medical profession will be interested in knowing who comprise the Medical Advisory Board of the Defensive Diet League of America. Here they are:

CHARLES SANFORD PORTER, Palms, Calif.—According to our records, Dr. Porter was born in 1862 and was graduated by the New York University Medical College in 1893. Dr. Porter has lived in California since 1896, the time he was licensed to practice in that state. For some years Dr. Porter operated the Porter Sanitarium at Burnett, Calif., which was said to be the "Home of the Original Milk and Rest Cure." In 1924 he opened the Porter Milk Diet Sanitarium at Palms, Calif.

WILLIAM HOWARD HAY, M.D., Buffalo, N. Y.—According to our records, Dr. Hay was born in 1866, and was graduated by the New York University Medical College in 1891. He seems to have practiced in Youngsville, and Corry, Pa., going to Buffalo, apparently, early in 1921. A newspaper clipping from a Corry, Pa., paper of August, 1918, reports that the "Hay rest cure" operated by Dr. W. H. Hay had introduced "a special service department for the cure of hay fever cases." In 1916 a physician had written stating that Dr. Hay who was operating the Hay Rest Cure Sanitarium at Youngsville, Pa., had a "diabetic cure." The American Medical Liberty League, an organization that is opposed to scientific medicine, publishes two diatribes credited to William Howard Hay and distributes them at 30 cents and 50 cents a hundred, respectively. Dr. Hay seems to be writing somewhat extensively for the Defensive Diet League bulletins, telling of his success in the treatment of various conditions by his own peculiar methods. In his letter of acceptance to the physician on the advisory board, Dr. Hay states that he is "entirely out of sympathy with classic therapeutics."

OSCAR JONES, M.D., Indianapolis, Ind.—According to our records, Dr. Jones was graduated in 1901 by the Central College of Physicians and Surgeons, Indianapolis. For many years he has been in the "cancer cure" business and has advertised "Cancer, My Cure is Guaranteed." While running his "medical non-surgical treatment of cancer" he also seems to have been connected with the "Medilation Co."—a medical, nonsurgical treatment of piles, claiming to cure nine out of every ten patients that he accepted. Dr. Jones' name appeared as an officer in the "Allied Medical Associations of America." Dr. Jones was, if he is not still, a disciple of the "Electronic Reactions of Abrams," and, according to Abrams' own booklets, was a lessee of at least one "Oscilloclast."

ARNOLD JACKSON, M.D., Madison, Wis.—According to our records, Dr. Jackson was born in Madison, Wis., in 1893, and was graduated by the Columbia University College of Physicians and Surgeons in 1919. He entered the Mayo Foundation in 1919, leaving in July, 1922. He is at present practicing surgery in Madison. As Dr. Jackson gets older he will doubtless look back on his connection with the Medical Advisory Board of the Defensive Diet League of America with chagrin.

DALTON RICHARDSON, M.D., Austin, Texas.—According to our records, Dr. Delmer Dalton Richardson was born in 1868, and was graduated in 1894 by the Medical College of Ohio, Cincinnati. For many years Dr. Richardson was in Chicago. He received his Texas license in 1920.

ACTIVE AND ASSOCIATE MEMBERSHIP

So much for the Medical Advisory Board. As to the Defensive Diet League's organization, its Active Membership is open only to "dentists, physicians, hygienists and dieti-

tians." The annual dues are $10 a year. In addition, the concern has what it calls an Associate Membership that is open to the public, price $5 a year. Active members receive a four page monthly bulletin, evidently prepared by Harter, and consisting mainly of quotations from various sources, good, bad and indifferent, together with such original articles as medical adviser William Howard Hay may furnish. The active members also get occasional supplementary printed matter, advertising certain side lines that the Defensive Diet League seems to be sponsoring. These include such products as "Dietetic Baking Powder," said to be made of cream of tartar, bicarbonate of soda and corn starch (no quantities given) and sold at $1 a pound; a household food chart, price $2; steam pressure cooking utensil, and a fruit and vegetable press.

The associate members get for their $5 a loose leaf binder and twelve small bulletins. In addition, they get four "personal advisory coupons" which, when mailed to the Defensive Diet League (accompanied by $2), will pay for "one letter of advice on dietary subjects."

SOME OF THE LEAGUE'S "AUTHORITIES"

The bulletins recommend and offer for sale certain books as authorities; they also give the names and addresses of concerns that supply certain food products that are approved by the League. The books recommended are a hodge-podge of works of men who are authorities on nutrition and those that are put out by food faddists and hobby-riders. One finds recommended, for example, McCollum's "Newer Knowledge of Nutrition" sandwiched in between a book by the erratic McCann and Chiropractor Froude's "Right Food the Right Remedy." There is a book by Charles Sanford Porter on "Milk Diet"; one by Kellogg, "The Itinerary of a Breakfast"; a third on "The Care of Children," by J. H. Tilden, with a fourth on "Rational Diet," by Otto Carqué. Readers of THE JOURNAL will remember that Tilden is the individual out in Colorado who for some years conducted a so-called health school and ran as an advertising medium a small magazine first called the *Stuffed Club* and later the *Philosophy of Health*. Mr. Harter of the Defensive Diet League thinks Tilden is about the last word in the science of nutrition. In fact, he calls Tilden "the head of the dietetic profession in America, probably in the world." Tilden holds that every disease is due to toxemia; that toxemia is due to enervation, and that enervation is due to improper eating. By eating according to Dr. Tilden's suggestions one may be cured of anything from cancer to smallpox, or from soft corns to freckles. Tuberculosis, according to Tilden, is "not a germ disease," and, says he, "I have proved often enough that smallpox is not contagious." Rabies, according to this same authority, is not a reality; it's all in your mind. In fact, Dr. Tilden insists that "the germ theory" is "merely a plausible fallacy." Before leaving Dr. Tilden's case, it may be said that Mr. Harter, who seems to answer various therapeutic questions, received a telegram from a dentist asking whether his (Harter's) goiter treatment would apply to the exophthalmic type. Harter rather doubted if it would, and recommended the dentist to consult Tilden.

Another authority quoted by Harter with evident approval is "Dr." Harry Ellington Brooks, who, before he died some months ago, used to run a weekly department in the magazine section of the Los Angeles *Times*. Brooks was a crude quack who played the so-called drugless game, but on the side, under another name, exploited a drug product on the mail-order plan that was declared a fraud by the government and debarred from the U. S. mails. Incidentally, it is of interest to note that the product itself was compounded for Brooks by Otto Carqué, who was in partnership with Brooks in its exploitation. Carqué appears to be the same individual whose book and whose food products are both boosted by Mr. Harter.

One other authority quoted by Mr. Harter is Dr. C. S. Carr. Carr, of course, has been dead some years. While alive, Carr was a mail-order quack, ran a fake health journal and acted as the advertising expert for the Peruna concern. Before leaving this phase of the subject, it should be said that Harter also recommends as a coffee substitute "Grains of Health," which he describes as a "healthified coffee." "Grains of Health" is said to be a mixture of coffee, roots and vegetables, and is said not to produce the harmful effects of coffee. Analysis is said to have disclosed the fact that this preparation contains nearly 40 per cent. coffee, and obviously, therefore, has the virtues and vices of coffee admixed with about 60 per cent. of roots and vegetables.

HARTER'S DIETETIC ERUDITION

So much for the scientific background disclosed by Harter through his bulletins. In closing, a few words should be said of Harter's own knowledge and dietetic erudition as exhibited by his writings in the League bulletins. First of all, Mr. Harter apparently holds the bizarre notions regarding health and disease that are held by Tilden. Here is what Harter calls his "fundamental principle":

> "All so-called 'diseases' are but so many more or less localized manifestations or symptoms—vents, safety valves, perhaps, warnings at least—of one underlying condition, toxemia, the result of acidosis, brought about by habitual and long-continued eating of the wrong foods at the wrong times or in wrong combinations."

This means that according to Harter conceptions the child that is suffering from diphtheria has merely been eating wrongly; the individual who has acquired a chancre is paying the penalty of dietetic error; a person with malaria has simply eaten the wrong food—but why go further? Here is an individual who in this year of grace attempts to enlist the confidence and help of the dental and medical professions in a campaign for dietary reform, and who is so ignorant of the most elementary facts of modern medical science that he charges all disease as being due to the wrong methods of eating.

Some other peculiar views of Harter are that table salt "has no place in an enlightened diet, never did have, never can have, serves no useful purpose and is wholly destructive." Worse than this, according to Harter salt will cause impotence about the fiftieth year (Bulletin No. 3). To uphold his peculiar views on salt, Harter copies H. L. Harris' widely distributed article, "The Value of a Salt Free Diet." H. L. Harris, our readers may remember, is not so much interested in deploring the use of salt as he is in boosting the use of borax and its compounds. In short, Mr. Harris has long been the press agent for the "Borax Trust," and has for years succeeded in getting letters and articles accepted by unthinking magazines and newspapers in behalf of the borax people's propaganda for the use of that chemical as a food preservative.

Harter also reports the cure of malaria brought about by eating sauerkraut (Bulletin No. 4). He states further that persons eating three meals a day should have three bowel movements daily, in which contention, of course, he follows the Battle Creek idea.

One of Harter's pet theories is that when one eats he should not combine two kinds of starchy foods. As he puts it, "combinations of starches are bad" and "combinations of starches and proteins are as bad or worse" (Bulletin No. 6). Furthermore, starches, according to Harter, should never be eaten with foods that are digested by the gastric juice (Bulletin No. 7). Further, "none of the fruits can be eaten with starches safely" (Bulletin No. 8). Summed up, he tells us: "Don't eat more than one kind of starchy food at any meal," and "don't eat more than one kind of protein (meat, eggs, fish, etc.) at any meal (Bulletin No. 14). And whatever you do, "don't eat cereal foods at the morning meal" (Bulletin No. 15). In Bulletin No. 17 Mr. Harter states that he has successfully treated three cases of goiter with the expressed juice of chopped cucumbers, carrots and onions as the sole food given on alternate days.

When Mr. Harter was addressing the assembled members of the League at the first annual meeting, he made a statement that will prove of interest to the medical profession, or at least to those members of the medical profession who think that they have some slight knowledge of human pathology. Said Mr. Harter: "We happen to know that if a man has any kind of a catarrh, a mucous discharge anywhere in

the body, he is over-eating on proteins." During this meeting Mr. Harter so comported himself that one might be led to assume that the sun of dietetic knowledge rose and set in G. E. Harter. In explaining his altruistic campaign with the obvious idea of giving a reason for his enthusiasm, Mr. Harter said:

> "Last year and every year a half-million people died and are dying for lack of the knowledge I can give them. . . . And another half-million little helpless children, between the ages of six and ten, are dying every year because I have not told their parents the things that I know about the food they eat."

So much for Mr. Harter and the Defensive Diet League. "The physician does not desire to practice dietetics. He already has more than he can do," says Mr. Harter, which may explain why he tackles the dental profession. Nothing in the foregoing article should be interpreted as intimating that THE JOURNAL believes that Mr. Harter is dishonest or that the Defensive Diet League is fraudulent. On the contrary, there is reason to believe that Harter is entirely sincere. It is true that his interest in the League may not be due wholly to his belief that he is the Moses that is to lead the lost tribes of dentistry out of the desert of dietetic ignorance, but may in part, at least, be activated by his connection with a dental supply house and the publication of the *Dental Summary*. In fact, the latter, by the way, publishes material that appears in the League's bulletins, using, apparently, the same type.

The point of this article is that if the public and the dental and medical professions need instruction on dietetic matters, they should get that instruction from individuals and organizations that have at least a scientific background, and whose elementary knowledge of the science of nutrition is at least equal to that of an ordinary high school pupil. The Defensive Diet League seems to have no such background, and Mr. Harter apparently has no such knowledge.

Correspondence

"STOMATOLOGY" AND "STOMATOLOGISTS"

To the Editor:—In a recent communication from your regular correspondent of Budapest (THE JOURNAL, May 23, p. 1587) reference is made to "the medical specialties in which specialists are legally recognized." Among the specialties enumerated, your correspondent mentions dentistry.

In a recent issue, the following reference was made to stomatology: "Stomatology signifies that branch of medical science which has for its purposes the study and treatment of diseases of the mouth" (THE JOURNAL, Nov. 22, 1924, p. 1696).

Dentistry, on the other hand is not a specialty of medicine. Because in the United States the terms "dentist" and "dentistry" do not mean a specialist in medicine and specialty of medicine, respectively, there seems to be a confusion in the minds of American readers as to the status of stomatology (dentistry) as a specialty of medicine in Europe.

Apropos of this subject, I received, May 15, from Prof. Dr. Joseph Szabo of Budapest, Hungary, dean of the School of Stomatology of the Royal University of Budapest, a letter in which he says: "Hungary is the country in Europe where the stomatologic idea is most perfectly realized, as the practice of dentistry is bound to the degree of Doctor of Medicine and the official name of the specialty, also of the chair at the University, is 'Stomatology.'"

Although your correspondent may have translated the term "stomatology," as used in Hungary, to be synonymous with the term "dentistry" as used in the United States, a confusion arises regarding their respective meanings. This especially conveys an incorrect impression as to the two tendencies now in existence in the United States concerning stomatology and dentistry. In this connection, I wish to emphasize that dentistry in the United States demands the D.D.S. degree as a qualification for practice, while the American Stomatological Association demands the medical qualification, the M.D. degree, before entering the dental schools for the study of the specialty of stomatology (dentistry).

ALFRED J. ASGIS, New York.
Secretary, American Stomatological Association
and Fédération stomatologique internationale.

ADVERTISING OF RADIUM EMANATION SOLUTION

To the Editor:—While attending the meeting of the Congress of Physicians and Surgeons in Washington, I saw some large signs advertising radium water in which my name was utilized as advocating the use of radium. At the Traymore Hotel, in Atlantic City, I was presented with a circular advertisement of the National Radium Products Company, in which they advertised radium water and again used my name as though I advocated its use. My name was used for general advertising purposes without my knowledge or consent.

I have been interested in the use of radium in internal medicine for ten or twelve years. In collaboration with Dr. Walter Baetjer, I presented a paper before the Section on Pharmacology and Therapeutics of the American Medical Association in 1913, entitled "Radium Water in Internal Medicine." Our conclusions read as follow:

> We must state frankly that the results in our small series of cases comprising only eighteen patients have not been gratifying. The brevity of this paper does not justify us in taking the space necessary for a detailed report of the individual cases; but, briefly summarized, our results have been as follows: Our patients were treated entirely by the drinking method with water activated with radium emanation. They were under observation for periods varying from two weeks to three months and were given daily doses of from one-half to forty microcuries. Our series included the following diseases:
>
> Five cases of arthritis deformans of the infectious type. (Of these, three showed a diminution of pain and stiffness which for about one month was quite marked. Later the symptoms returned, though not with the same severity as before.)
>
> Five cases of muscular rheumatism and neuralgia, conforming somewhat to the group of polyneuralgias of von Noorden and Falta. (One of these patients was apparently cured; another was temporarily benefited, while the others were not affected.)
>
> Three cases of tabes in which there was no recognizable change in the frequency or severity of the lightning pains. (It should be added that these patients were treated over a period of only two weeks and with doses which never exceeded two microcuries.)
>
> One case of acute rheumatic fever (without benefit).
>
> One case of sciatica (without benefit).
>
> One case of Parkinson's disease (with temporary but definite lessening of the stiffness).
>
> One case of chronic nephritis and high blood pressure (with a lasting diminution of the pressure from over 200 mm. to about 180 mm., with marked improvement in subjective symptoms).
>
> One case of gout in which the treatment was followed by a severe exacerbation in all the affected joints.
>
> The most favorable results have been in the cases of arthritis deformans of the infectious type, in which three out of the five patients showed some slight but definite improvement.
>
> We make no attempt to draw any conclusions as to the efficacy of this form of therapy from our small number of cases, but feel that any form of medication which has yielded the results reported by the European writers should be the subject of a much more exhaustive test, until its real value can be definitely established and its limitations rationally outlined.

Dr. E. K. Marshall and I published a paper in the *Journal of Biological Chemistry* on the "Action of Radium Emanation on Lipase"; our conclusion was that radium has no accelerating influence, but, on the contrary, an inhibition of the enzymatic activity is suggested.

In view of the fact that my name is being used for advertising purposes, I think it would be fair that the attention of the profession should be called to my actual conclusions.

L. G. ROWNTREE, M.D., Rochester, Minn.

QUOTATIONS IN MEDICAL LITERATURE

To the Editor:—The interest I have derived from the current articles on the preparation of medical papers, written by you and Dr. Simmons and presented in THE JOURNAL, leads me to offer a suggestion. I refer to the ever growing tendency of authors to refer to articles or papers which they have not even seen, let alone read. The reader assumes that the author is quoting from an original article, as no mention is made of the source of the reference or of the fact that it is an abstract, yet time and time again the only knowledge the author has of the original from which he quotes is a short abstract sent him by one of the abstracting bureaus. I do not believe for a minute that it is the intention of an author who uses these literary services in the preparation of his manuscript to deceive intentionally. He does not realize that when he quotes an author it is presumed that he knows exactly what this man has written from whom he quotes unless he states definitely in his bibliography that he is citing an abstract. Aside from the fact that grave errors creep into the literature by this manner of presenting references, the author is in truth practicing a form of literary dishonesty in that he permits his reader to believe that he knows firsthand what the original article contains. There is no excuse, except that of saving time, for such a deceit. Even if a man is remote from libraries there is always available to him the original articles from the library of THE JOURNAL or from the Surgeon General's Library at Washington.

J. H. MUSSER, M.D., New Orleans.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

USE OF ELECTROTHERAPEUTIC DEVICES

To the Editor:—This section of the country has been infested with salesmen representing concerns that are making different electrotherapeutic machines and appliances, such as light therapy, diathermy, autocondensation, quartz lamps and many other apparatus. They are endeavoring to convince physicians that the only thing left that has therapeutic value is electricity. Each salesman seems to have the "best machine made." To this end, I am appealing to you to furnish me information of the therapeutic value of electricity in its different phases and applications. Should there be such an unlimited field for such therapy, would you kindly mention some of the machines that would be reliable and suitable in general practice? I have before me circulars left by the Fisher Company and the Liebel-Flarsheim Company. Are these companies reliable? Is the Model P Dynelectron machine efficient? How does it compare with the Fisher's F-O or L-O?

S. B. KOORY, M.D., Schuyler, Neb.

ANSWER.—It is rather difficult for us to indicate comparative values of various types of electrical devices now available.

The Model P Dynelectron, manufactured by the Liebel-Flarsheim Company, is a portable high frequency machine and does satisfactory diathermy and electrodesiccation. It is not, however, powerful enough for strong electrocoagulation or for autocondensation. The Fisher F-O and the L-O are the same machine except that the F-O is generally known as the "Thompson-Plaster" apparatus, because it has incorporated in its case a pressure and suction pump which is run on either alternating or direct current. The Fisher machine is a powerful high frequency machine.

Few physicians are aware of the differences between fulguration, electrodesiccation and electrocoagulation. The first treatment means treatment given with the monopolar, or Oudin, current with the spark passing *through* the air to the tissues. This treatment is used primarily for stimulation of sluggish granulation tissues or in such conditions. Electrodesiccation is the same current, of low voltage, relatively high amperage and a very high rate of oscillation, the treatment being administered by a needle being inserted into the tissue and the current then turned on in order to destroy the tissue by desiccating it. Microscopic examination of tissues thus destroyed shows a resultant picture that is comparable to the tissues of mummies. It is a true desiccation or dehydration without destruction of the cell body. Electrocoagulation is the use of the bipolar, or d'Arsonval, current with one pole connected to the needle and the other pole connected to a very large electrode usually placed on the patient's back. This arrangement gives a current of greater density and power, and can be used in extensive operations with a great destructive effect. This is sometimes called surgical diathermy (British) and is the same hook-up as ordinary diathermy. Here again the needle is inserted into the tissue before the current is turned on. The "radio knife" or, as it is called by the Wappler Manufacturing Company, the "endotherm knife," is used with the same hook-up as the electrocoagulation, but the current supplied is nothing like the ordinary high frequency current used in the operations mentioned above. The cutting effect that the "knife" has is due to an undampened high frequency current which is generated by the use of three-element vacuum tubes such as are used in radio work. The action of these waves oscillating at a very high rate of speed is to destroy the protein molecule.

LOCAL ANESTHESIA — UTERINE CONTRACTIONS IN PREGNANCY

To the Editor:—1. In the use of local anesthesia with procain or its substitutes, in a member such as the finger or toe, is it best to add to the anesthetic solution a few drops of epinephrin, or not? 2. Should a tourniquet be applied? 3. How should anesthesia be done when it is not practical to apply anything constricting, as on the middle of the back? 4. How long should one wait after making the injection before anesthesia is sufficient to begin work? 5. If a vaccination (variola) is done after the manner of the "single line" abrasion of the skin, how should it be dressed? Will not contact of the clothing tend to infect it (bunion pads and shields being forbidden)? 6. What is the cause of painful uterine contractions during the last month or so of pregnancy, especially those so severe that the patient has to stay in bed a great deal? I refer to cases in which there is no albumin or sugar in urine. Please omit my name.

W. C., M.D., Missouri.

ANSWER.—1. The addition of epinephrin prolongs the action of the procain and is desirable.

2. A tourniquet is not necessary, but is useful if there is hemorrhage, since a moderate amount of bleeding may wash out the anesthetic.

3. When constrictions cannot be applied, the surgical field may be circumscribed by injections of a solution of epinephrin and procain.

4. This is best judged by pricking the area slightly, a few minutes after the injection is made.

5. Many advise that no dressing be applied. If any is used, it should consist of a *few* layers of gauze, put on in such a way as to avoid constriction of the extremity.

6. These contractions are an exaggeration of the physiologic rhythmic contractions of the uterus that occur throughout pregnancy. The cause is not known.

ALCOHOL AS MENSTRUUM FOR SOLUTIONS IN AMPULES

To the Editor:—Why is not ethyl alcohol used as a menstruum in preparing ampules of oily substances, such as creosote and eucalyptol? What will be the harm in injecting hypodermically a dose of spirit of camphor instead of camphor in olive oil as is customarily done? Please omit my name.

Y. S., Texas.

ANSWER.—Alcohol is a general protoplasm poison, and kills tissue when injected in considerable concentration such as would be required to carry in solution the drugs mentioned. The result would be varying degrees of irritation. In poorly nourished tissue, even superficial necrosis may occur. Bland oil, like olive oil, does not irritate, and it lessens the irritation that would be produced by the drugs under discussion.

TREATMENT OF SURGICAL TUBERCULOSIS

To the Editor:—In THE JOURNAL, May 9, p. 1461, appears an item on Gregory's treatment of surgical tuberculosis. I should like to ask what sized doses Gregory used. How often and where did he make the injections?

J. A. BURNETT, Crum Creek, Okla.

ANSWER.—Gregory injected intramuscularly a 10 per cent. iodoform emulsion in 90 parts of liquid petrolatum and 10 parts of tincture of iodin. The dose was from 5 to 6 c.c. in adults. One injection was made every seventh to tenth day, with an average total of fifteen injections. He does not state where the injection was made, but states that Grekow of Russia injected an iodin preparation intramuscularly in the gluteal muscle or in the ischiorectal fossa.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, July 13. Ch., Dr. Samuel W. Welch, Montgomery.
ARIZONA: Phoenix, July 7-8. Sec., Dr. W. O. Sweek, 404 Heard Bldg., Phoenix.
CALIFORNIA: San Francisco, July 6-9. Sec., Dr. Charles B. Pinkham, 906 Forum Bldg., Sacramento.
COLORADO: Denver, July 7. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.
CONNECTICUT: Hartford, July 14-15. Sec., Reg. Bd., Dr. Robert L. Rowley, 79 Elm St., Hartford.
CONNECTICUT: New Haven, July 14. Sec., Homeo. Bd., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.
DISTRICT OF COLUMBIA: Washington, July 14. Sec., Dr. Edgar P. Copeland, Stoneleigh Court, Washington.
HAWAII: Honolulu, July 13. Sec., Dr. G. C. Milnor, 401 S. Beretania St., Honolulu.
ILLINOIS: Chicago, June 23-25. Supt. of Regis., Mr. V. C. Michels, Springfield.
INDIANA: Indianapolis, July 14-16. Sec., Dr. W. T. Gott, 333 State House, Indianapolis.
MAINE: Augusta, July 7-8. Sec., Dr. Adam P. Leighton, Jr., 192 State St., Portland.
MASSACHUSETTS: Boston, July 14-16. Sec., Dr. Charles E. Prior, 144 State House, Boston.
MISSISSIPPI: Jackson, June 23-24. Sec., Dr. F. J. Underwood, Jackson.
MISSOURI: St. Louis, June 23-26. Sec., Dr. James Stewart, Capitol Bldg., Jefferson City.
NEW YORK: Albany, Buffalo, New York and Syracuse, June 22-25. Sec., Dr. Harold Rypins, Education Bldg., Albany.
NORTH CAROLINA: Raleigh, June 22-26. Sec., Dr. Kemp P. B. Bonner, Morehead City.
NORTH DAKOTA: Grand Forks, July 7. Sec., Dr. George M. Williamson, 860 Belmont Ave., Grand Forks.
OREGON: Portland, July 7-9. Sec., Dr. Urling C. Coe, Stevens Bldg., Portland.
PENNSYLVANIA: Philadelphia and Pittsburgh, July 7-11. Sec., Dr. J. George Becht, State Capitol, Harrisburg.
RHODE ISLAND: Providence, July 2-3. Dr. Byron U. Richards, State House, Providence.
SOUTH CAROLINA: Columbia, June 23. Sec., Dr. A. Earle Boozer, 505 Saluda Ave., Columbia.
SOUTH DAKOTA: Deadwood, July 21. Dir., Dr. H. R. Kenaston, Bonesteel.
TEXAS: Austin, June 23-25. Sec., Dr. T. J. Crowe, 918-19 Mercantile Bank Bldg., Dallas.
UTAH: Salt Lake City, July 7. Dir. of Regis., Mr. J. T. Hammond, 412 State Capitol Bldg., Salt Lake City.
VERMONT: Burlington, June 24-26. Sec., Dr. W. Scott Nay, Underhill.
VIRGINIA: Richmond, June 23-26. Sec., Dr. J. W. Preston, Shenandoah Life Bldg., Roanoke.
WASHINGTON: Olympia, July 6. Sec., Mr. William Melville, Olympia.
WEST VIRGINIA: Martinsburg, July 7. Sec., Dr. W. T. Henshaw, Charleston.
WISCONSIN: Milwaukee, June 30, July 1-2. Sec., Dr. Robert E. Flynn, 315 State Bank Bldg., La Crosse.

Colorado April Examination

Dr. David A. Strickler, secretary, Colorado Board of Medical Examiners, reports the written examination held at Denver, April 7, 1925. Examination covered 8 subjects and included 80 questions. An average of 75 per cent. was required to pass. Of the 8 candidates who took the physicians' and surgeons' examination, 5 passed and 3, including 1 osteopath, failed. Ten candidates were licensed by reciprocity, and 2 by endorsement of credentials. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Hahnemann Medical College and Hospital, Chicago		(1919)	77.6
Kansas City University of Physicians and Surgeons		(1919)	76.0
St. Louis College of Phys. and Surgs.		(1922)	77.3, (1924) 78.4
Kyushu Imperial University, Japan		(1920)	83.3

College	FAILED	Year Grad.	Per Cent.
St. Louis College of Physicians and Surgeons		(1923, 2)	63.5, 65.3
Osteopath			45.3

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Georgetown University		(1915)	Dist. Colum.
University of Georgia		(1913)	Georgia
Loyola University		(1922)	Illinois
College of Physicians and Surgeons, Keokuk		(1876)	Iowa
College of Physicians and Surgeons, Baltimore		(1908)	Maryland
College of Phys. and Surgs. in the City of New York		(1891)	New York
Jefferson Medical College		(1912)	Penna.
Medico-Chirurgical College of Philadelphia		(1902)	Penna.
University of Nashville		(1907)	Illinois
University of Budapest, Hungary		(1911)	Maryland

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
Harvard University		(1922)	N. B. M. Ex.
Woman's Medical College of Pennsylvania		(1923)	N. B. M. Ex.

Idaho April Examination

Mr. F. A. Jeter, commissioner, Idaho Medical Examining Board, reports the written examination held at Boise, April 7, 1925. The examination covered 16 subjects and included 110 questions. An average of 75 per cent. was required to pass. Three candidates were examined and passed. Two candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Loyola University		(1917)	75.1
Jefferson Medical College		(1894)	87.9, (1921) 86.8

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Drake University Medical Department		(1888)	Oregon
Marion-Sims College of Medicine		(1899)	Washington

Massachusetts March Examination

Dr. Charles E. Prior, secretary, Massachusetts Board of Registration in Medicine, reports the oral, written and practical examination held at Boston, March 10-12, 1925. The examination covered 18 subjects and included 180 questions. An average of 75 per cent. was required to pass. Of the 54 candidates who took the physicians' and surgeons' examination, 28, including one osteopath, passed and 26, including 2 osteopaths, failed. Four candidates were licensed by endorsement of their credentials. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Georgetown University		(1924)	83.5
Indiana University		(1912)	79.1
Maryland Medical College		(1912)	75.2
Boston University		(1924, 2)	81.9, 87.1
College of Physicians and Surgeons, Boston		(1923)	77.7
Harvard University		(1924, 4)	83.0, 84.8, 84.9, 85.0
Middlesex College of Medicine and Surgery		(1924)	75.0
Tufts College Medical School		(1924, 3)	80.7, 83.7, 84.9
St. Louis College of Physicians and Surgeons		(1923, 3) 75.2, 78.3, 79.2 (1924, 2)	76.6, 81.5
Cornell University		(1922)	88.9
Fordham University		(1920)	82.8
Woman's Medical College of Pennsylvania		(1924)	75.0
McGill University, Quebec		(1924)	76.0
University of Montreal, Quebec		(1923)	76.7
University of Vienna, Austria		(1908)	81.8
University of Jurjev, Russia		(1923)*	75.0
University of Constantinople, Turkey		(1919)*	80.9
Osteopath			75.0

College	FAILED	Year Grad.	Per Cent.
Bowdoin Medical School		(1902)	57.4
Johns Hopkins University		(1919)	31.3
Middlesex College of Medicine and Surgery		(1922)	61.8
	(1923, 4) 61.3, 61.7, 67.9, 68.0, (1924) 66.4		
St. Louis College of Physicians and Surgeons		(1922, 3)	59.2, 64.6, 65.5,
	(1923, 4) 57.2, 66.5, 72.1, 73.2, (1924, 3) 69.1, 71.0, 73.3		
University of Toronto, Ontario		(1921)	71.0
University of Montreal, Quebec		(1924)	62.8
University of Budapest, Hungary		(1922)*	61.9
University of Catania, Italy		(1917)*	49.1
University of Naples, Italy		(1914)*	65.0
University of Constantinople, Turkey		(1914)*	68.0
Osteopaths			63.4, 66.6

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
Harvard University		(1923, 4)	N. B. M. Ex.

* Graduation not verified by the American Medical Association.

New Hampshire March Examination

Dr. Charles Duncan, secretary, New Hampshire Board of Medical Examiners, reports the oral and written examination held at Concord, March 10-12, 1925. The examination covered 12 subjects and included 120 questions. An average of 75 per cent. was required to pass. Three candidates were examined and passed. Nine candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Boston University		(1924, 2)	84.0, 84.1
Tufts College Medical School		(1915)	76.8

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Yale University		(1922)	Maine
Bowdoin Medical School		(1918)	Maine
Boston University		(1924)	Mass.
Harvard University		(1887)	Mass.
New York Homeopathic Med. Col. and Flower Hosp.		(1894)	New York
Woman's Medical College of Pennsylvania		(1894)	Mass.
University of Vermont		(1906)	Vermont
McGill University		(1924)	Maine
University of Aberdeen, Scotland		(1904)	Mass.

Book Notices

THE TECHNIC OF LOCAL ANESTHESIA. By Arthur E. Hertzler, A.M., M.D., Ph.D., Professor of Surgery in the University of Kansas. Third edition. Cloth. Price, $5.50. Pp. 272, with 140 illustrations. St. Louis: C. V. Mosby Company, 1925.

In this edition the general plan of the previous editions has been retained. The technic has been standardized, so that the essential features are presented in brief. The author describes the technic he has found most useful and has not attempted to present the technic of others. He discusses the indications for the use of local anesthesia and feels that its indiscriminate use should be avoided. After a consideration of the drugs employed, the technic of administration and the use of local anesthesia in general operations, which occupies about a fifth of the volume, the major portion of the book is devoted to a consideration of the technic in operations of the various portions of the body, the operations being grouped regionally. The subject matter is well presented, the descriptions being clear and concise, and illustrated by numerous original drawings and photographs. While in general the presentation is excellent and the methods shown are well selected, we feel that at least two of the methods described were better omitted in future editions. In Chapter XV in the section dealing with operations on the penis, the author describes and illustrates (Figs. 89, 90 and 91) a method in which the foreskin is allowed to lie in its normal position, and a line from one-fourth to one-third inch wide is infiltrated just back of the corona of the glans. The foreskin is then fully retracted and a line is injected in the mucous membrane about one-fourth inch proximal to the corona glandis. The frenulum is then injected from the line in the mucous membrane to the glans. While this method undoubtedly yields satisfactory anesthesia, Braun points out in his monograph on local anesthesia (1921 edition) that whereas he described this type of circular injection in the region of the sulcus coronarius in previous editions, he has now discarded this method because the arteries in this area are end-arteries and there is a certain danger of sloughing. He reports no cases in his own experience, but is familiar with many cases and therefore advises against circular peripheral injections in the penis and instead recommends that the injection should always be limited to a circular injection about the root of the penis. Also in describing the various methods of local anesthesia for operations on ingrowing nails, Hertzler shows an illustration (Fig. 140) in which anesthesia is secured by beginning at a point midway between the joint and the nail and injecting a line along the soft parts outside the nail corresponding to the base of the overhanging soft parts. This line is continued until the extremity of the toe is reached. The space beneath the nail is then infiltrated by beginning at the distal end of the nail and proceeding to its base. This method does not appeal to us for two reasons: First, as the author states, the sensitiveness of this region is usually heightened by the inflammation present, and, second, the anesthetic is injected into an infected area and carries with it some danger of spreading infection. The alternate method suggested by the author, that of injecting a circular line about the base of the toe, surely is preferable. These are minor criticisms, and are not meant as a criticism of the work as a whole, which is excellent and can be highly recommended.

TECHNIQUE OF TISSUE CULTURE "IN VITRO." By T. S. P. Strangeways, Lecturer in Special Pathology in the University of Cambridge. Cloth. Price, 7 shillings 6 pence net. Pp. 80, with 31 illustrations. Cambridge: W. Heffer & Sons, Ltd., 1924.

TISSUE CULTURE IN RELATION TO GROWTH AND DIFFERENTIATION. By T. S. P. Strangeways, Lecturer in Special Pathology in the University of Cambridge. Cloth. Price, 5 shillings net. Pp. 50, with 4 illustrations. Cambridge: W. Heffer & Sons, Ltd., 1924.

In the first book, Strangeways describes with many details the complex technics that the student must master before he can cultivate tissues in vitro successfully. Minute instructions are given for the setting up of the apparatus, its sterilization, the preparation of the medium for the tissues, and of the cultures themselves. Methods for staining cultures, both before and after fixation, are described. The book will doubtless be of great help and permanent value for the beginner. At the same time, it cannot lead the student to the newer procedures that have been developed during the last few years in this country, for the isolation and maintenance of pure strains of cells, the quantitative study of the growth of tissues, and the reciprocal action of tissues and humors. It teaches only the early technic, such as was used about ten years ago, for the cultivation of tissues. As the author intended to write an elementary treatise on tissue cultivation, his purpose has been thoroughly fulfilled, and his little book is excellent.

In the second book, the author gives a short account of a series of experiments on animal tissues cultivated in vivo, with their significance in relation to the general problems of growth and differentiation. In the first chapter, he describes the growth of cells in vitro, with excellent drawings of mitotic figures. Later, he discusses the factors that determine mitosis and cell redifferentiation. He believes that structural reorganization can take place only when the various types of cells composing the original organ are present, according to a theory of Champy that he attributes by mistake to Drew, and he forgets to mention the experiments of Fischer and of Ebeling, which have disposed of this theory. Some of his own experiments in which he observed the redifferentiation of cultures of tissue, subsequently grafted back into the animal, are new and interesting. The author goes on with an excellent study of the action of the roentgen ray on dividing cells, and ends with an interesting discussion of cell variation and of the possibility of studying, by the method of tissue cultivation, the processes involved in inflammation and repair in the organism. For the American reader, this book will not present anything that is strikingly new. The author is perhaps not sufficiently familiar with the extensive literature published outside his country on the subjects he discusses, and does not realize as fully as could be desired that phenomena are of scientific interest only when they are linked with all that is already known.

ANATOMIE DES MEMBRES. Dissection—Anatomie topographique. Par le Dr. Ch. Dujarier, Chirurgien de l'Hôpital Boucicaut. Second edition. Paper. Price, 45 francs. Pp. 422, with illustrations. Paris: Masson et Cie, 1924.

This is essentially a prosector's guide. It deals with the topographic anatomy of the two extremities, and contains carefully drawn plans for the preparation of demonstrations. The nomenclature used is French. No attempt is made to select names in international usage. The book contains fifty-eight full page plates made from special dissections by the author, and nineteen smaller illustrations. The plates are well made and are valuable. The chapters on joints are of especially good quality, are well illustrated, and will be of interest to surgeons and to all others who study the action of joints. The chapter on the arteries of the palm and that on the muscles and nerves of the palm are presented with especial fulness and clearness. While this book is good, it is not better than the sections of standard textbooks and atlases dealing with the same topics.

PREMIER CONGRÈS INTERNATIONAL DES ÉCOLES EN PLEIN AIR, EN LA FACULTÉ DE MÉDECINE DE PARIS. Directeur du Congrès: M. F. Marié-Davy. Secrétaire-General: M. le Docteur Chaplain. Paper. Price, 10 francs. Pp. 158, with illustrations. Paris: A. Maloine et Fils, 1925.

The first international congress of fresh air schools was held in Paris in June, 1922. In addition to those from France and its colonies there were delegates from Belgium, Holland, Poland and Luxemburg. This international congress is an outgrowth of the French League for Fresh Air Education, founded in 1906. The outstanding feature of the report is the classification of fresh air schools adopted by formal vote of the congress. It was: (1) fresh air classes; (2) fresh air day schools; (3) fresh air boarding schools, and (4) preventoriums. The first, classe aérée, is called the open window school in this country. The definition of a preventorium is that used by the National Tuberculosis Society in this country, except that it enters somewhat more into detail. Some of the resolutions passed by the congress were in effect as follows: Some part of all funds for education should be

spent for fresh air schools. In school work, examinations should be given less prominence; class room work of the ordinary kind should be limited to a four hour daily schedule. Two hours a day should be given to instruction in hygiene, and one hour to open air work and play. Teaching of ordinary classes should be done in the open air when the weather permits. Every school should have at least one open window room. There should be one open air day school for each 100,000 population. There should be open air boarding schools for more debilitated children. All these should be under the direction of the board of education. The preventoriums should be under the health department. Regular school teachers from the public schools should be assigned to tuberculosis sanatoriums in which there are children. The normal schools should furnish courses of instruction for teachers of fresh air schools.

ATLAS DER HARNSTEINE. Zugleich eine krystallographisch-chemische Studie über deren Entstehung. Von Dr. H. Nakano, A. O. Professor in der Dermato-Urologischen Klinik der Universität Tokio. Mit einem Geleitwort von Professor Dr. V. Blum. Cloth. Price, 30 gold marks. Pp. 45, with 30 plates. Leipsic: Franc Deuticke, 1925.

The author is associate professor of urology at the University of Tokyo, and has utilized the opportunity afforded by the large number of urinary tract calculus cases in Japan to study 200 calculi from the standpoint of their crystalline and chemical composition. This has led him to study the still unsolved problem of the cause of calculus formation. To those interested in the question whether it is the biliary or urinary tract, this book is to be warmly recommended. The hundreds of colored illustrations of calculi and their interpretation in the most thorough manner conceivable enable one to visualize the vast amount of energy expended by the author in their preparation, over a period of six years. The book is of especial value to urologists because it takes up the crystallography and chemistry of all varieties of urinary calculi in a far more thorough manner than any previous contribution to the subject. One is somewhat disappointed, however, to find that even with the study of the vast material represented by this book, little has been added to our knowledge of the etiology of calculus formation. We agree that the urine contains all the components necessary to the formation of calculi even under normal conditions. The author's view that the organic framework is secondary is not generally shared in this country. His experiments showing that crystalline deposits will take place to a far greater extent around foreign bodies with rough than with smooth surfaces are instructive. It is only through such indefatigable study of the subject of calculus formation that we shall progress in our comprehension of this ever interesting process.

MENTAL GROWTH OF CHILDREN IN RELATION TO RATE OF GROWTH IN BODILY DEVELOPMENT. A Report of the Bureau of Educational Experiments, New York City. By Buford J. Johnson, Professor of Psychology, Johns Hopkins University. Cloth. Price, $3.50. Pp. 160, with 28 illustrations. New York: E. P. Dutton & Company, 1925.

This is a careful, thorough technical analysis of growth changes in height and weight, strength, pulse rate, blood pressure, muscle coordination, and various intellectual processes, over a period of five years in a group of children aged from 2 to 11, pupils in the Nursery School and the City and Country School, New York City. Both these schools are used as laboratories in experimental education by the Bureau of Educational Experiments. The studies indicate especially the importance of studying the rate of physical and mental growth as contrasted with relatively static test norms. Certain children, moreover, with a normal rate of growth vary markedly from standards heretofore accepted as accurate. As the result of fluctuations in growth in weight, the weight-height index shows less correlation with age than height alone. There is a decreasing pulse rate in relation to age rather than to increased weight-height relationship. Performances involving little muscular effort but requiring great accuracy of control or complexity of movement, as well as all types of reactions classified as mental, have relatively little correlation with growth in bodily traits. The mental age as determined by the Stanford revision of the Binet-Simon scale shows no significant correlation with change in blood pressure, weight, height or pulse rate. Young children in a favored social environment have a superior average rating by the Stanford scale, with the tendency, however, for a relative lowering of their position on the scale with increase in age. The Stanford scale is inaccurate for the young child, as it is also for the child over 14, being influenced at the extremes of the scale by training.

ENERGÉTIQUE CLINIQUE: PHYSIOPATHOLOGIE-THÉRAPEUTIQUE. Le sympathique — le vagues les réflexes de la vie organo-végétative. Par A. Martinet. Publié par les soins du Dr. Martingay. Paper. Price, 35 francs. Pp. 416, with 106 illustrations. Paris: Masson et Cie, 1925.

The title of this book is enough to indicate that it is something unusual. The manuscript was completed before the death of the author in October, 1922, and its publication was supervised by his friend and pupil, Martingay. In more than one sense this book is the medicophilosophic final message and testament of the remarkably versatile author. He attempts to analyze the correlation in health and disease between the vegetative system and the circulatory, digestive and endocrine systems. By virtue of his profound learning, logical and analytic capacity and ability to correlate facts and theories, he has actually succeeded in producing what he aims to do, a formulation of organic "energetics," as far as it can be done with our present-day knowledge. His love of precision is shown by his effort to employ mathematical formulas whenever possible. This is praiseworthy but makes matters difficult for the ordinary medical reader. The first part of the book is devoted chiefly to the sympathetic and autonomic systems; the second part, to pharmacology, chiefly "vegetative therapeutics"; the third, to "physiopathologic energetics" proper. This book will appeal only to physicians who love to delve into the inner meaning of symptoms and therapeutic actions for the sake of visualizing the fundamental processes at work and formulating them in terms of general science.

HARNORGANE MÄNNLICHE GESCHLECHTSORGANE. Bearbeitet von Th. Fahr. Georg B. Gruber, Max Koch, O. Lubarsch, O. Stoerk. Erster Teil. Niere. Handbuch der speziellen pathologischen Anatomie und Histologie. Herausgegeben von F. Henke und O. Lubarsch. Sechster Band. Paper. Price, 84 gold marks. Pp. 792, with 354 illustrations. Berlin: Julius Springer, 1925.

This, the first part of the sixth volume of an elaborate system dealing with the special pathology of the organs constituting the human body, is devoted to the pathology of the kidney and ureter. The first chapter, dealing with abnormalities in the development of the kidney and ureter, is preceded by a presentation of the normal embryology. The chapter on circulatory disturbances in the kidney furnishes an excellent introduction to the pathologic anatomy of chronic nephritis. These two parts are written by Fahr, who was very active in developing the modern fundamental views on the pathology of the medical renal diseases. The degenerative forms called nephrosis are dealt with separately, in distinction from the ischemic forms, true nephritis. Embolic suppurative nephritis and the specific infections of the kidney are presented by Stoerck. The last part of this book is devoted to the renal pathologic changes produced by animal parasites. The book is beautifully illustrated and constitutes an excellent reference work on the pathology and pathologic physiology of the kidney.

L'OS TEMPORAL CHEZ L'HOMME ADULTE. Par Philippe Bellocq, Chargé de cours à la Faculté de médecine de Strasbourg. Paper. Price, 18 francs. Pp. 127, with 23 illustrations. Paris: Masson et Cie, 1924.

This describes the anatomy of the temporal bone of the adult. It is based on special studies made of bones obtained from the pathologic institute of Strasbourg. The illustrations present interesting sections through the bone. It is divided into four parts: (1) on the bone as a whole; (2) on the sutures and other connections of its parts; (3) on its component parts under the headings petrous portion, squamous portion and tympanic portion; (4) on its cavities and canals. At the end is a very brief statement of the effect of the growth of the brain and of the action of the muscles on the form and character of this bone. The author announces that a more detailed study will appear in a later publication.

Miscellany

EPIDEMIOLOGIC RULES OF THE PAST*

PROF. KARL SUDHOFF
LEIPZIG, GERMANY

On the subject of epidemics and popular diseases, there is general silence in the records of the distant past. The myriads of hieroglyphics in the ancient Egyptian temples and other public buildings say not a syllable about them; and the hieratic texts of the medical papyri are equally inscrutable. In this regard, the cuneiform texts of Mesopotamia are more communicative. Prophetic texts of all kinds betray the anxious concern of Assyro-Babylonian humanity about the scourge of pest and similar diseases, which were certainly not entirely quiescent in the Nile valley, little exposed as it was to the drift of epidemics. As prophylactic measures, the Babylonians had, at most, prayers, ritual procedures and the theurgy of priestcraft at their disposal. In the handling of leprosy alone, they stood on the sure terrain of public preventive measures: expulsion of the lepers from the city and village communities into the desert, to become a welcome prey to wild beasts. "Never more shall he know the ways of his abiding place"—so runs the formula proclaiming outlawry. Here we have, before our eyes, indeed, the oldest known evidence of positive prophylaxis against communicable diseases, transmitted to us on the stone landmarks of Babylon more than 3,500 years ago.

The sacred texts of the Jewish people tell of epidemic diseases and rites of atonement against them, how they were also connected with the inspection of lepers, and its practice by priests, in a form which, as conveyed in Leviticus, bears the stamp of Mesopotamian influences dating from the Babylonian Captivity. This codification of differential diagnosis, in the accepted manual of the priestly caste, commands our entire admiration, even in its earlier inchoate stage, and cannot be frittered away by hypercritical caviling. The thirteenth and fourteenth, and also the fifteenth chapters of the third section of the Pentateuch are weighty official documents in the history of preventive medicine which deserve to be written in letters of radiant gold, which have, indeed, become imperishable, in that, more than a thousand years after their first transcription, they were destined to be the germ of our modern prophylaxis against infectious diseases in another racial community, and in an entirely unique way: light from the East shed over the twilight of Western peoples.

The next stage is to be found in Greek thought. The Greeks first conceived and carried out the sanitary improvement of town planning, even in the age and with the cooperation of the great Sicilian scientific thinker Empedocles, in the fifth century, B. C.; indirect prophylaxis of highest value, which the sage of Akragas was certainly not the first to conceive and which was carried out in Greek settlements everywhere.

The plague of Thucydides (430-429 B. C.), in all probability typhus fever, indicates a popular comprehension of the fact that an epidemic disease may be transmitted from person to person, that the carrier is a menace to his surroundings. Preventive measures were limited to "purification of the atmosphere," destruction of the "miasm" by lighting fires in the streets and public places of Athens. A miasm, arising from swamps, was regarded as the cause of malarial fever, and though hardly a thought of Roman growth, was identified with animalcula, invisible to the naked eye, which arose from the swamps and were carried long distances by the wind.

Among the physicians of classical antiquity, we find no clear conception of the transmission of infection by contact, although Galen speaks, in one place, of the "seeds of pest"[1] which, indeed, must also be regarded as miasmatic. This doctrine was expounded in particularly prolix manner by the Pneumatic School, which concerned itself mightily with the hygiene of air, water and the soil. It is in Aretaeus, and even more definitely in Caelius Aurelianus of Numidia, Morocco (fifth century, A. D.), the transmitter of the teaching of Soranus (second century, A. D.), that we first encounter an explicit statement of the transmission of disease by contact (contact infection) and its restriction by isolation; but all that is plainly an importation of Oriental modes of thought, to which our author only refers in passing, while his own mind opposes and rejects it, as unworthy of a scientific physician and of the ethics of the medical profession.

Thus the fundamental idea of infection, and a definite grasp of the prophylactic measures implicit in it, could not take root in classical antiquity. It was reserved for the actual Middle Ages to conceive serious official measures against the spread of epidemics, which were consciously, and even dutifully, derived, from the leper ritual of the Jews, with its fundamental concept of isolation. Long before, in the East, the book of Leviticus had already engendered a school of thought, apart from Judaism, particularly among the fathers of the Christian Church. In his ever memorable hospital city at Caesarea, Basil the Great materialized the centric idea of charitable sick nursing in the loftiest manner, and even provided for and erected an isolation house, or home, for lepers.

In the course of centuries, leprosy had spread from the East to the Levantine coasts in the most insidious and sluggish manner. As a littoral infection it had impressed even Aretaeus and Caelius: the rule was to drive the lepers inland. During long periods of time, the oceanic littoral of Spain and Gaul became infected with leprosy by coastwise traffic, even in antiquity; but it was not until the sixth century, A. D., that the disease had attained such frequency in the interior of southern Gaul that it became a matter of pressing moment; whereupon the Supreme Council of Lyons, in 583, reacted to the situation with an edict putting rigid limitations on the free movement of lepers in the country. There soon followed further ecclesiastical ordinances, which are based on the exactions in Leviticus. The leaders of the Church derived from the instructions given to the Jewish priesthood of the old dispensation the impulse and even the obligation to carry out similar procedures. The Zaraath mandates lived to see their own resurrection.

Even in the secular regulation of the Lombard "Edictus Rothari" (644), isolation of lepers became the vogue. As a just consequence, the idea of contagion now gradually became the motor power in the development of an entire system of preventive measures, at first limited to lepers and persons suspected of leprosy. Even in the narrow sphere of restricted social relations, compulsory regulations were prescribed for the banished unfortunates. They could not go barefooted on public highways, they could not touch any articles laid out for sale, even with the prescriptive gloves they wore; whatever they touched must be bought and paid for. They had to announce their presence by blowing a horn or shaking a rattle, if any one approached them unawares. They must stand facing the wind, if any one addressed them. Some warning sign had to be displayed, even on their garments. Even in the holy ground of a church, these isolation measures obtained, unless there were special chapels for lepers in the leper houses, or churches for lepers in the leper colonies, which

* Translated from Sudhoff's Skizzen, Leipzig, 1921, by F. H. Garrison, Lieutenant Colonel, M. C., U. S. Army.

1. Galen: Opera omnia, Ed. Kühn, Leipzig 7: 291, 1824. Sudhoff's exegesis of the galenic "sperm of pest" (*τινὰ λοιμοῦ σπέρματα*) is given in Mitteilungen zur Geschichte der Medizin 14: 227, 1915. K. F. H. Marx (Origines Contagii, Carlsruhe, 1824) gives countless examples of the current use of the word "contagion" by the writers and physicians of antiquity, but this was mere fashionable phrase mongering, just as people now talk glibly of ions and electrons, without knowing much about them.

were usually downstream in relation to particular localities. Whenever lepers were admitted to general religious services, they had to enter the church by special doors and go to particularly isolated places, on either side the nave, often separated by high partitions, which permitted a view of the altar only through very narrow slits, or in special galleries. In the aisles assigned them, special basins of holy water were attached to the walls for the use of lepers. How rigorously this segregation from the ranks of free people was carried out by law is well known. With solemn ceremonies, the person known to be leprous was excluded from the community of people, condemned to civil death, and directed to associate only with his fellow sufferers until death. Hard, but effective, was this rule of exclusion, which, in the course of centuries, freed France and Germany from the contagion by a system of isolation colonies for lepers, which, at the height of the widespread infection, were no less than 20,000 in round numbers.

Leper inspection, the regular examination of all suspects and carriers, attained an unusual development, first at the hands of the superintendents of the leper colonies, the "masters" of these organizations; later by specially appointed physicians and surgeons, by the corporate associations of physicians in the cities and by the medical faculties. Many local inspectors came to enjoy particular confidence and reputation, and received encouraging marks of consideration from distant patients and municipal authorities, who ordered doubtful cases to be examined by them at these points. These suspects received "protocols of inspection" (*Schaubriefe*), written out in prescribed legal form. Printed examples of these, dating from the sixteenth and seventeenth centuries, are extant, filled out in due legal form, and we even know the "terms" or stated intervals of time at which such inspections and reinspections (e. g., in Nuremberg) were held.

This prophylactic method of combating a particular chronic infectious disease had thus become a highly elaborated official ritual, divorced, in the end, from all ecclesiastical features; yet its origin in the religios rite had this curious trait, that it started with the least easily transmissible of all chronic infections, which thus became the chosen herald of the doctrine of contagion, while more flagrant examples, such as trachoma or gonorrheal conjunctivitis, were apparently ignored, even though responsible for the popular notion of an infectious "evil eye." Reflection over this curious phenomenon will, however, lead only to one inevitable conclusion, which robs it of all its strangeness; namely, that along with leprosy, an infection of chronic aspect, there must have been coincident one or more acute general diseases, beginning noticeably as contagious, but submerged[2] under the general pathologic concept of lepra. Be that as it may, this meticulous system of warding off the contagion of leprosy so occupied the everyday thought of physicians and communities that people came to see allied phenomena in a more intelligent and clear-eyed way.

In the thirteenth century, so forward in science and knowledge, the general concept of "contagious diseases" became current, and, in compliance with medieval custom, was crystallized in mnemonic verses, of which Bernard de Gordon preserves an example, of date 1303.[3] A distich mentions five, then eight, later eleven, finally thirteen infectious diseases from which people were to protect themselves and the carriers of which were to be avoided; to wit, plague, exanthematous fevers, phthisis, anthrax, trachoma and gonorrheal conjunctivitis, scabies, erysipelas and whatever else passed for it. This versified wisdom was also carried over into practical sanitation. Municipal authorities were ordered to put such patients outside the city gates, to forbid them any traffic with articles of food and drink, and so on. All this is achievement of the "gloomy Middle Ages," hitherto penalized, with tardy justice, as the period of "medical scholasticism." What the thirteenth century saw and attained became, in the fourteenth century, a pressing need of the day and hour.

In the matter of recognition of contagion and prophylaxis by isolation, the most rigorous line was taken at the instance of physicians by the city authorities of northern Italy and southern France, when the dreadful doom and devastation of the bubonic or pneumonic plague, otherwise the Black Death, fell on humanity, overwhelming terror-stricken Europe in ever widening waves throughout the second half of the fourteenth century. The sacrifice of human life even exceeded that of the frightful world struggle of 1914-1918. The dire need of the times, activated by the newer insight into the nature of disease, brought forth, in a few decades, the entire system of legal restriction and quarantine as we now know it. It was created, in all its essential features, during the period 1347-1400. Indeed, to be exact, the pest epidemics of 1347 and later were to the Middle Ages and their far-flung preventive measures what the cholera epidemic of the early thirties of the nineteenth century was to the modern community hygiene of cities and industrial centers.

The initial conditions for this advance in sanitation were created, in fact, by the thoughts and observations of many decades. For the realization of a great idea, the time must be ripe. During the great epidemic waves of the sixth century known as the "plague of Justinian," which was rampant for at least sixty years after 532 A. D., physicians and authorities, alike, in spite of all the homicidal terrors of the pestilence, resignedly fold their hands and have vouchsafed us not a recorded syllable about it. But the Black Death of the fourteenth century brought forth a huge literature of prophylaxis, in the shape of pest rules and pest tracts written by physicians, a sign that these physicians had learned to stand on their own feet and to think for themselves. A few years later we encounter the assertion that people now knew more about epidemic plague than the lauded physicians of antiquity; nay, preventive measures on a grand scale had already been promptly and vigorously instituted. In the first year of the epidemic (1437), the city of Milan, by means of a prompt sanitary cordon and draconian edicts, succeeded in keeping the pestilence at bay, as it stormed past the city, but for one year only. But people in other cities became observant and were ready to learn something. The lessons of experience were costly but not in vain. People looked ahead and were on their guard. As the pest began to approach Venice in 1470, the order went forth that no plague-stricken persons, no suspects or suspicious articles were to be permitted inside the city (1374). Other cities began to put plague carriers outside the gates. Those who attended them were isolated; special nurses were appointed, and priests were ordered to notify authority as to every case of plague that became known to them in administering extreme unction to the dying. On the further shore of the Adriatic, Ragusa established a landing station, far from the city and the harbor, where incoming suspects had to spend a month in the open air and sunlight. Whoever had traffickings with them had to be isolated (1377), and as it began to transpire that the thirty days of isolation (*Trentina*) were not adequate, the period of segregation was increased to forty days (*Quarantina*).

Thus did quarantine come into being and was shortly thereafter instituted at Marseilles (1383), where a quarantine station for travelers and cargoes of ships was erected. In the cities of the inland, a sharper watch was maintained at the

2. Sudhoff's actual expression is "subsumed," referring, of course, to the many cases of psoriasis and syphilis which were confused with leprosy in the Middle Ages. Unna maintains that the Biblical "Zaraath" was really psoriasis and not leprosy.

3. The distich in Bernard de Gordon runs:

"Febris acuta, ptisis, pedicon, scabies, sacer ignis,
antrax, lippa nobis contagia praestant,"

i. e., plague, phthisis, epilepsy, scabies, erysipelas, anthrax, trachoma and leprosy.

city gates; houses of ill repute were first aired, then fumigated, the household goods were sunned and later scoured with soap; all trash, and also bedding of plague patients, was burned, and these collective measures were delegated to particular officials. Domestic animals were also under control. The cities were kept clean, with control of streets and water supply. Some decades later, letters brought in by post were fumigated, and gold money coming into the town was soaked in vinegar to cleanse and disinfect it. The theory of quarantine, as a barricade against pestilence, existed, not only in germ, but almost completely developed, in the early years of the fifteenth century, while the Renaissance period is not entitled to essential credit in this regard, since it rather suppressed many germinal ideas relating to prevention and retrieved its deserts only in the comprehensive treatise of the great Veronese physician Fracastorius, on contagious diseases (1546).

When syphilis, in the middle of the last decade of the Quattrocento (1495), began to attract general attention, the weapons employed by the fourteenth century against plague were raked up, particularly in the south German cities, but naturally, without much effect. The administrative measures against plague in the sixteenth, seventeenth and eighteenth centuries are nothing new, and even the further development of a military cordon against epidemics is of no especial significance. That people could travel only with health certificates, like the passports and bread tickets of today, indicates an excess of empty formality rather than a highly vitalized prophylaxis against epidemics. On the other hand, in combating tuberculosis, the seventeenth century made a logical, well considered beginning in the Latin countries of the South. Not only were the clothes, bedding and other personal effects of phthisical patients required to be burned, but even glass spittoons were introduced to prevent infection, and consumptives were restricted in social intercourse with other people and even forbidden to marry.

Why all this should die out again, even when people had a clear notion of infection, to wait on a more thoroughgoing clarification of etiology for its revival, forms another page of history which we shall not turn today. We shall content ourselves for the present with a recognition of the fact that the stoppage of epidemic diseases is, in great part, an achievement of the thirteenth and fourteenth centuries, in other words of the Middle Ages and in particular, of the Western world; its first great conquest, in comparison with the Orient, since the downfall of the ancient civilization. This was the first token of its call to give the world a second great revival of medicine, beginning in the twelfth and thirteenth centuries, establishing its first stations through Paracelsus, Vesalius, Paré, Harvey, Haller, Bichat, and its latest in Johannes Müller, Pasteur, Koch, on whose work our present day medicine is still based.

REPORT OF COMMITTEE OF PEDIATRICIANS

A committee appointed by the Georgia Pediatric Society to visit the child health demonstration at Athens, conducted under the auspices of the Commonwealth Fund, comprised Drs. Robert L. Miller, Waynesboro, William N. Adkins and Theodore Toepel, both of Atlanta, and Harry B. Neagle and William A. Mulherin, both of Augusta. In its report, the committee considers the demonstration a cooperative venture for developing in that community resources for promoting the health of mothers and children and for correlating the various health measures. The committee considers it essential that there be a real community understanding of health questions, and the actual application of methods of community and personal hygiene which are being advocated so that when the demonstration period ends, there will be left a practical working program. The medical work in the demonstration is preventive, children needing treatment being referred to family physicians. The demonstration is organized in four divisions, administrative, medical, health education and public health nursing, all thoroughly correlated with the community health organizations. To provide for indigent school children, thirteen physicians have established an outpatient department at the Athens General Hospital, and about as many dentists give some time each week. The relation of the city and county boards of health to the demonstration is so close that it is possible to carry on practically as one unit. The offices are adjacent, and the city and county nurses are a part of the demonstration's nursing staff. Illustrations of cooperation among the different organizations are (1) the combination of all nurses into one staff regardless of the sources of their compensation; (2) the demonstration granting a subsidy to the local board of health for bacteriologic work, and (3) the nursing staff assisting the board of health in its prevention program and in visiting homes of reported cases of communicable disease. The cooperation extends to volunteer agencies, including the Red Cross, tuberculosis association and the playground committee. A local committee of representative citizens meet each month to advise with the demonstration staff. Their advice has been invaluable. The city is divided into zones in the generalized nursing program, each being in charge of a nurse. The types of nursing service undertaken are prenatal conferences, postpartum visits, instructive nursing visits, school follow-up, well baby conferences, bedside care for the tuberculous and supervision of contacts and suspects.

IMMIGRATION AND THE ALIEN INSANE

New York State suffers disproportionately for the support of alien insane, since so large a percentage of immigrants are admitted at Ellis Island and settle in that state. New York's population is 27.2 per cent. foreign born, but 43.1 per cent. of the inmates of New York institutions for the insane are foreign born. Of these, 17.8 per cent. are naturalized and 25.3 per cent. are aliens. More than 10,000 public charges of the state are noncitizens, and are costing the state more than four million dollars a year. Since admission and deportation of aliens are matters outside the jurisdiction of the state, the federal government is held responsible for New York's predicament by Dr. S. L. Dawes, medical examiner of the New York State Hospital Commission (*State Hospital Quarterly*, February, 1925). The specific complaints are:

1. Congress has not appropriated sufficient funds to permit proper observation and recording of immigrants at ports of entry.

2. Aliens are too freely admitted on bond.

3. Deportable aliens are permitted by the Department of Labor to remain in this country, after hearings, at which the interested state authorities are not represented.

4. The head tax on immigrants, which legally should go to defray the expenses of the state in supporting aliens awaiting deportation, goes into the federal treasury.

5. The 1924 immigration bill gives the Secretary of Labor power to refuse the deportation of a feebleminded alien child under 16 years of age, if either parent is a citizen of the United States.

YEAST IN THE TREATMENT OF PELLAGRA

After years of study, Goldberger and his associates concluded that pellagra can be prevented by means of diet, and recently they set about to find an appropriate diet that is inexpensive (*Pub. Health Rep.* **40**:54 [Jan. 9] 1925). They tried soy beans and cow peas as supplemental dietary factors and were disappointed with results. Casein, precipitated from sweet skimmed milk, when added to the diet was followed by improvement, but after eleven months of casein treatment the symptoms of pellagra returned. Dried milk was tried, a daily allowance of 105 gm. dissolved in water being used, given in equal amounts at each meal. The evidence indicated that dried skimmed milk had pellagra-

preventive action but not in sufficient amount. They tried brewers' yeast on twenty-six pellagrins over a period of one year. The dose (from 15 to 30 gm. of dried brewers' yeast) was given in table syrup, canned tomato juice or milk. With one exception, the twenty-six patients made prompt recoveries from the immediate attack of pellagra. Improvement was repeatedly recognized as early as the second or third day after treatment was begun. The investigators believe that brewers' yeast contains abundantly a dietary factor concerned in the prevention of pellagra.

SURVEY OF MENTAL HOSPITALS

At the invitation of the thirty-eighth Texas legislature, the National Committee of Mental Hygiene during 1924 made a survey of the state mental hospitals and care of the insane in Texas. The committee found a great deficiency in the number of physicians, nurses and attendants assigned to these patients, an almost complete absence of medical records concerning patients, general idleness among patients able to engage in occupations, no effort at the systematic training of nurses and attendants and no real attempt to classify patients according to the variety of mental conditions from which they suffer and individual needs of treatment. Recommendations touching on medical and nursing personnel, hospital construction, fire hazards, food economics, the appointment of hospital executives, commitment laws, occupational therapy, psychopathic hospitals, methods of treatment and prevention, outpatient clinics and other questions were made. Rewriting of the insanity law to facilitate the earlier admission to hospitals was also recommended.

INTERNATIONAL UNION AGAINST TUBERCULOSIS

Professor Calmette wishes to control his experiments with the immunization of infants and young animals against tuberculosis by definite figures relating to the survival of nonvaccinated children, exposed to tuberculosis in their homes. His request for data has been sent several French physicians in charge of dispensaries, and a wider appeal is published in the *Bulletin* of the International Union against Tuberculosis for December, 1924. This issue of the *Bulletin* also contains an article by Sir Robert Philip on "Anticipatory Detuberculization" (abstracted in THE JOURNAL, April 11, 1925), "The rate of dissemination of virulent bacilli in normal and immune guinea pigs" by Drs. A. K. Krause and H. S. Willis, the proceedings of the Fourth International Tuberculosis Conference held in Lausanne, August 5-7, 1924, and news of interest to tuberculosis workers. The *Bulletin* publishes all matter both in French and in English.

USE OF RED CROSS EMBLEM

In signing the Treaty of Geneva, the United States pledged to take measures to safeguard the emblem of the Red Cross Society, and in 1905 passed a law which enabled the Red Cross to compel manufacturers to abandon the name or emblem of the Red Cross on their products. The law failed, however, to provide for the discontinuance of the use of the title and insignia by concerns which used it prior to the passage of the act. The *Red Cross Courier* points out that the U. S. Patent Office records show that about 200 manufacturers had registered the name or emblem, or both, as trademarks before the law was passed. These trademarks, of which the Red Cross Society cannot compel abandonment, cover remedies, soap, stoves, insect powders, cheese, mattresses, and many other articles. A large drug manufacturer recently voluntarily discontinued the use of the red cross insignia on his labels. The work of protecting this emblem has required more than 500 different investigations and the continued vigilance of the department of justice.

Medicolegal

Representations as to Business of "Divine Healer"

(People v. Walker (Calif.), 231 Pac. R. 572)

The District Court of Appeal of California, Second District, Division 2, says that the information under which the defendant was convicted of the crime of obtaining money by false pretenses charged that one Elgin and his wife paid to the defendant $1,500 for a partnership interest in a business conducted by her as a divine healer and that the payment was made because of false representations which she made to them. These were that the defendant was a divine healer; that she had a sufficient number of patients suffering from confining illnesses, maladies and diseases to more than fill an eleven-room sanatorium or house; that she was seeking to lease a sanatorium or house sufficient to accommodate such number of patients; that she had a patient with whom she had an agreement to pay her $1,500 for treatments, and another patient with whom she had an agreement to pay her $2,000 for treatments; and that she had sufficient patients and business to bring in an income of $1,000 a month. The information was demurred to on various grounds, among them, that it could not be ascertained from the information what was meant by the term "divine healer"; by the adjective "confining," as qualifying the nouns stated; nor how many patients would fill or more than fill an eleven-room house or sanatorium. But these points were not well taken, all being directed at portions of the information that were devoted to an exposition of what the defendant represented to the Elgins. As performers of that office the allegations were not subject to the charge of uncertainty, for they avowedly stated exactly what the misrepresentations were.

Furthermore, the court does not agree with the contention that the alleged representation that the defendant was a divine healer should be treated as a mere expression of opinion. In justification of this, the court deems it necessary to examine into the meaning of that term. It is satisfied that on a common understanding which, indeed, has found expression or has been accorded notice in legislative enactment and judicial decision, it may formulate an adequate definition of the term. "Divine healers," specifically so called, have been before the courts in a few instances, and whenever the nature of their practice has been in question it has appeared that they have claimed the power to heal through prayer to God. The defendant represented that she was a "divine healer." Taking the well known meaning of the two words of which this expression is composed, and, moreover, considering them and the expression itself in the light of the common understanding to which the court has referred, a "divine healer" may be defined as one who is capable of healing the sick and afflicted through divine interposition induced or made active or efficacious by means of prayer or supplication. In representing herself to be possessed of this power, did not the defendant make representation of a fact? Whether she did possess this power appears to the court to have been a matter of fact, and, not only so, but one peculiarly within her own knowledge. Whether she was able to heal through the agency of prayer was better known to herself than to any other person. Her representation was not mere matter of opinion.

Then, too, the court is convinced that the representation that the defendant had enough patients to more than fill an eleven-room sanatorium was one of fact. By the representation, the court thinks that the defendant meant to convey the idea that she had at least eleven patients of the character referred to, or, if not that, it surely conveyed the idea, considering that the alleged patients were suffering from confining illnesses, maladies and diseases, that the defendant was engaged in the conduct of a business of some magnitude, and it was to that extent a material representation. Likewise, the alleged misrepresentation that the defendant was seeking to lease a sanatorium or house sufficient to accommodate her patients was plainly a statement of fact, and it was a material statement because it necessarily gave

the Elgins the impression that she was the owner of a flourishing business. So, too, does the court regard the statement that the defendant had sufficient patients and business to bring in an income of $1,000 a month as a representation of fact, one which, under the circumstances disclosed on the face of the information, the Elgins had a right to rely on. Again, the alleged misrepresentations as to the defendant having agreements with two patients for them to pay her, respectively, $1,500 and $2,000 for treatments were material ones, as conveying the idea that the business was one of importance, and were not rendered innocuous because there was no allegation that the Elgins were to participate in the fruits of the agreements.

However, on account of errors in the admission of evidence and because some of the allegations were not proved, the judgment of conviction is reversed.

Validity of Registration Law—As to Chiropractors

(State v. Waldram (Utah), 231 Pac. R. 431)

The Supreme Court of Utah, in affirming a judgment of conviction of the defendant on the charge of having treated "human ailments without the use of drugs or medicine, and without operative surgery," and "without first having secured a license from the state to do so," says that in 1921 the legislature revised the laws relating to medicine and surgery, and in Chapter 130 of the Laws of 1921 created the department of registration, abolishing a number of boards, including that of medicine, and transferring all the duties of the various boards thus abolished to the newy created department. The defendant assailed this law as unconstitutional for the reason that it conferred judicial powers on an administrative body. But the action of the board of registration in ascertaining the qualifications of those who apply for license or permits to practice their professions does not in any manner intrench on the judicial power, and no judicial power is conferred on the board. Again, it was contended that the requirements of the law were unreasonable, but the requirements claimed to be unreasonable were not designated, and this court finds nothing in the law that is unreasonable and certainly nothing that was not within the power of the legislature to enact, whether reasonable or otherwise.

The next argument was that the law discriminated against the chiropractor and in favor of the general practitioner by allowing the latter to practice chiropractic without examination or license. If this were true, it would be no reason for holding the law unconstitutional. The legislature has the power to prohibit the practice of chiropractic, or it may say that any one may practice that art or science. It is well settled in Utah that what the constitution does not forbid the legislature may do. However, the discrimination claimed by counsel does not exist under the law, which recognizes four different systems of treating human ailments, each separate and distinct from the other. A separate and distinct examination is held, and separate and distinct licenses are issued for each. This court finds nothing in the act that makes the constitutionality of any part thereof even questionable.

The undisputed evidence showed that the defendant, as a chiropractor, treated those who applied for treatment for their ailments. He assigned as error that there was a fatal variance between the complaint on which he was held to the district court by the justice of the peace and the information thereafter filed by the district attorney. In the complaint, the defendant was charged with treating persons as a chiropractor without a license to practice chiropractic in the state of Utah, while the information charged that, without being licensed, he did, as a chiropractor, "treat human ailments without the use of drugs or medicine, and without operative surgery." While the complaint did not contain the statutory definition of the misdemeanor with which the defendant was charged, the words clearly and definitely described the offense. The complaint was therefore sufficient. In the information the language of the statute was not followed, but the identity of the offense was preserved and clearly charged the same offense described in the complaint, and that was treating patients as a chiropractor without having a license to do so.

When an Eye Is "Lost"

(Liimatta v. Calumet & Hecla Mining Co. (Mich.), 201 N. W. R. 204. Rye v. Chevrolet Motor Division of General Motors Corporation (Mich.), 201 N. W. R. 226)

The Supreme Court of Michigan, in affirming, in the first case, an award under the workmen's compensation act for the loss of an eye caused by an industrial accident, says that the eye had been injured before and had healed with the vision seriously impaired, apparently by a scar over the pupil, to an extent rendering it impossible for the plaintiff to see with that eye anything directly in front of him, though by turning his head sideways he got light as plainly as with the other eye. The eye is an organ of the body which furnishes the mechanism by which the sense of sight or faculty of vision is exercised. When it ceases to function for that purpose it is in common understanding lost, although the organ may yet remain. Such unquestionably is the purport of the brief statutory provision of Michigan which fixes compensation "for the loss of an eye" in an industrial accident, without any qualifying provisions as to percentage of sight left or condition of the other eye, except by another and distinct provision in the schedule that the loss of both eyes shall constitute total and permanent disability. As the statute now stands, an employee who suffers the loss of a single eye in an accident is entitled only to the compensation fixed for the loss of an eye, even though by previous loss of the sight in the other eye he becomes totally incapacitated. Unquestionably, the loss of an eye within the meaning of the act may be tested by the permanent loss of all vision adequate for industrial pursuits. Primarily it is a question of fact to be determined from the testimony, and it would therefore be difficult to lay down any fixed rule of law to guide the determination. It seems apparent in fact and within the meaning of the industrial accident law that an employee can actually lose the same eye but once. In this case the previous injury to the eye which impaired its vision antedated the law under which this award was made for its loss in the second industrial accident necessitating its removal. The organ with some power of vision remained after the earlier accident, and when the later accident occurred there had not been any adjudication or official determination that the eye was lost.

In the second case, plaintiff Rye was injured in the left eye. This resulted in a hemorrhage of the eyeball. Three days later the eyeball was removed. But the eye was one without vision, its sight having been destroyed when the plaintiff was a boy. Still the department of labor and industry made an award of $1,400 for the loss of an eye, which award is vacated by this court. In using in the workmen's compensation act the words "the loss of an eye," the legislature evidently intended the loss of the sight or vision of an eye rather than the loss of the physical eye. That this was the meaning intended by the legislature is made apparent by the fact that if the physical eye is seriously injured and the sight is not appreciably affected, there would be no loss of an eye, whereas if the sight or vision is destroyed without a destruction of the physical eye, the loss of an eye, under the compensation act, would be conceded. If this be the proper construction, the plaintiff had no left eye to lose when he began work for the defendant. If he had no left eye within the meaning of the compensation law, he suffered no compensable loss when the physical eye was removed.

Sufficient Basis for Opinion as to Cause of Death

(People v. Potigian (Calif.), 231 Pac. R. 593)

The District Court of Appeal of California, First District, Division 1, says that it was contended in this homicide case that one of two physicians who gave opinions as to the cause of death of the defendant's stepdaughter was not shown to be an expert, because there was no qualification with regard to experience in connection with poisoning cases or arsenical poisoning prior to the admission of this evidence. But a physician may testify as an expert, touching cause of death, basing his opinion on special knowledge acquired from professional study, even though he may have had no practical experience in cases of the kind concerning which he testifies. Hearing denied by the Supreme Court of California.

Society Proceedings

COMING MEETINGS

Maine Medical Association, Bar Harbor, June 23-25. Dr. B. L. Bryant, 265 Hammond Street, Bangor, Secretary.
Montana, Medical Association of, Lewistown, July 8-9. Dr. E. G. Balsam, 222 Hart-Albin Building, Billings, Secretary.
North Pacific Pediatric Association, Portland, June 29. Dr. E. J. Barnet, Paulsen Building, Spokane, Wash., Secretary.
Pacific Northwest Medical Association, Portland, Ore., June 29-July 1. Dr. Frederick Epplen, Paulsen Building, Spokane, Wash., Secretary.

MEDICAL ASSOCIATION OF GEORGIA

Seventy-Sixth Annual Meeting, held at Atlanta, May 13-15, 1925

The President, DR. J. O. ELROD, Forsyth, in the Chair

Local Anesthesia

DR. G. Y. MASSENBURG, Macon: The three principal elements to success in local anesthesia are: previous narcotic, proper apparatus and the injection of a liberal amount of the solution. In inflammatory conditions, unless the field of operation can easily be blocked away from the inflammatory area, operations are not easily done without pain. A laparotomy without pain can be more easily accomplished than the incision of a boil. Patients that seem to be nervous tolerate local anesthesia very calmly after the preliminary narcotic; also children that are at all reasonable and controllable; I believe that at least 75 per cent. of all surgery can be done easily and painlessly under local or regional anesthesia.

History Taking by the General Practitioner

DR. W. H. CLARK, LaGrange: The general practitioner has probably a greater opportunity for early diagnosis than any other medical man. The vast majority of conditions that are handled by the specialists are first seen by the man in general practice, and except in very evident conditions the public depends entirely on the family physician for advice as to when and where to obtain consultation in special lines. A carefully taken history is often of more importance than the physical examination itself. It takes many years of experience to be able to ask the appropriate questions, and years of experience to be able to interpret the answers. To get the most valuable material from the case history, each and every symptom, past and present, and the details of previous diseases must be analyzed fully. Any typewritten forms should be avoided. A good anamnesis, not too elaborate but taken thoroughly, will go a long way toward establishing an accurate idea as to the physical, psychic and social status of the patient.

Hexylresorcinol in Bacillus Proteus Pyelitis

DR. W. E. MCCURRY, Hartwell: A case of pyelitis due to *Bacillus proteus* was treated persistently over a period of three and a half months by the methods in ordinary use, including bladder instillations, pelvic lavage, hexamethylenamin, alkalization and methylene blue, with only partial temporary relief. After four days of treatment by hexylresorcinol, the urine was sterile. Hexylresorcinol was continued for twelve days, and the urine has remained sterile.

Dextrose Content of the Cerebrospinal Fluid in Certain Nervous and Mental Diseases

DR. E. B. SAYE, Milledgeville: Our investigation of the comparative blood and cerebrospinal fluid dextrose findings in 206 cases, representing a variety of nervous and mental diseases, seems to warrant the following conclusions: 1. The dextrose content of the cerebrospinal fluid is essentially the same in psychotic and in nonpsychotic persons. 2. The amount of cerebrospinal fluid sugar varies normally from 40 to 60 mg. per hundred cubic centimeters, the average being about 55 mg. A sugar value below 40 mg. is indicative of bacterial infection of the meninges. 3. There is some correspondence between the sugar content of the cerebrospinal fluid and that of the blood. 4. Relatively high sugar values were obtained in Huntington's chorea, cerebral syphilis, cerebral arteriosclerosis and the status epilepticus groups. 5. An explanation of the mechanism by which changes are brought about in the cerebrospinal fluid must await further knowledge concerning the source of the fluid in health.

Dermatophytosis

DR. JACK W. JONES, Atlanta: Our present methods of diagnosis are very imperfect. Our knowledge of epidemiology and the thorough classification of the offending organisms should receive thorough study. Better methods of treatment are urgently required. An attempt at ridding the floors, wearing apparel, etc., of these common organisms, particularly at the public baths and in clubs, where most of these cases are contracted, should be made.

Treatment of Diabetes Mellitus

DR. J. A. REDFEARN, Albany: Any physician can learn enough to start treating intelligently the average diabetic patient, who, in turn, may learn in ten days the fundamentals; namely, weighing foods, counting calories and using insulin. Next in value to the proper food adjustment is insulin, a thing which is not very well understood by some intelligent laymen. The amount of equipment necessary for this treatment is so small and simple, and the knowledge so easily acquired, that even laymen, after a few days' study, could carry out intelligent treatment in most cases. Most diabetic patients can be successfully treated at home, provided their physicians learn the fundamentals of treatment and teach their patients the simple rules of dietetics, urine examination and administration of insulin.

Adhesive Mediastinopericarditis

DR. EUGENE E. MURPHY, Augusta: There has been an enormous increase in this inflammatory sequel as a result of the recent pandemic of influenza and pneumonia. Many of these cases are being missed and overlooked by the profession. The precordial distress from which these patients suffer tends to create in the minds of many of them the belief that they are suffering from organic heart disease and renders them an easy prey for incompetence and charlatanism. The symptom complex is a definite, easily recognizable clinical entity. The prognosis, so far as expectancy of life and reasonable activity are concerned, is excellent. Physical training and rehabilitation, together with the establishment of a proper mental attitude, are the main ends toward which the physician and his patient should strive in unison.

Treatment of Pneumonia

DR. E. C. THRASH, Atlanta: The majority of pneumonias need no treatment except to administer to the patient's comfort. All pneumonias are overtreated, as a rule. It is more dangerous to give potent drugs indiscreetly than not to give them at all. If one is in doubt as to the administration of a remedy, it should not be given. There is no disease which requires so broad a scope of knowledge from the standpoint of pathology and therapy as pneumonia.

The Athens Child Health Demonstration

DR. THOMAS BOLLING GAY, Athens: From a medical standpoint, our work is purely preventive in character and is carried on through cooperation with the local medical profession and all agencies for health whether public or private. To carry out this program, our staff and their duties are as follows: In the administrative division we have a director who is a physician with special experience in public health—an office manager with four stenographers and a statistician. This division is concerned chiefly with general direction, community organization, statistics, and record keeping. In the medical division, the pediatrician at present conducts ten health centers in Athens and Clarke County for infants and children under school age. These are well child conferences. Any child needing medical attention is referred to its family physician for treatment. As already stated, the pediatrician also assists the county health officer with the health examinations in the schools. The nursing division is composed of a supervising nurse and five nurses. The nursing program includes school nursing, general case work, prenatal and postnatal nursing, and work in the health centers. In the health education division, we have a director of health

education who supervises the teaching of health habits and stresses the features of proper diet in the schools—a supervisor of physical education in the schools and an oral hygienist.

Intracranial Injuries in the New-Born

DR. C. H. RICHARDSON, JR., Macon: Intracranial injuries are more common than generally recognized. The possibility of their presence should always be suspected, and diagnosis made early for treatment to be effective. The most adequate treatment of these injuries lies in their prevention. In all probability, the greatest advance in preventive medicine in the next decade will relate to the care of the child-bearing woman and the new-born infant. The obstetrician must realize and accept his responsibility, and must have at his command the alert judgment and knowledge which thorough study of his art affords. He must not allow haste to prompt the use of injudicious measures, but he must be keen enough to detect the signs when Nature falters and courageous enough to take command promptly and terminate a situation that is becoming dangerous to both mother and baby. The most valuable diagnostic aid is lumbar puncture, and it is also probably our most efficient therapeutic agency. The repeated removal of from 5 to 20 c.c. of bloody spinal fluid at from twelve to twenty-four hour intervals, depending on the extent of the intracranial extravasation, is often attended by the happiest and most surprising results. These taps may be repeated for several days until signs of cerebral compression no longer occur. The infant is moved and manipulated as little as possible and kept in a quiet darkened room and protected from all irritation. If unable to nurse, it should be fed with a large medicine dropper, and, if unable to swallow, through a nasal tube. Bromids are given for twitchings or convulsions, and if there is delayed coagulation of the blood, an intramuscular injection of blood may be given into the buttocks, or, better still, a transfusion of whole blood given into the longitudinal sinus.

Physiologic Pigmentation of the New-Born

DR. M. HINES ROBERTS, Atlanta: A study of the spinal fluid has been made on 423 new-born negro babies. All these fluids exhibited a definite xanthochromia. Bilirubin is constantly present in the spinal fluid of the new-born. The pigmentation persists in the spinal fluid until the ninth day. It has cleared by the fourth week. The intensity of pigmentation is markedly increased if jaundice occurs. The intensity of pigmentation is closely related to the physical development of the infant. Icterus neonatorum is not dependent on the presence of blood in the spinal fluid. Xanthochromia of the spinal fluid in new-born infants is a physiologic condition and in no way related to hemorrhage or to any other pathologic condition in the central nervous system. Its presence is additional evidence of a general blood destruction beginning in the fetus and continuing for a time after birth.

Pyuria in Infants and Children

DR. W. W. ANDERSON, Atlanta: I am inclined to look on pyuria more as a primary infection of the bladder than of the pelves and kidneys in a large percentage of children. Children with a colon bacillus infection, whose bladders have been irrigated with a weak silver nitrate solution have recovered much more quickly than other patients. So far, none of them have relapsed.

Treatment of Syphilis in Children

DRS. JOSEPH YAMPOLSKY and GEORGE F. KLUGH, Atlanta: Two syphilitic children were treated intraperitoneally with alternating doses of neo-arsphenamin and mercurosal. These patients are alive and healthy looking. One has a negative and the other a positive Wassermann reaction.

Gastric and Duodenal Ulcers with Medical Treatment

DR. J. D. GRAY, Augusta: A treatment for the ambulatory patient with which we have had very good results consisted of the administration of from one-half to one teaspoonful of Carlsbad salt in a glass of warm water before breakfast. One-half teaspoonful of alkaline powder is given after each meal and whenever there is pain. The alkaline powder consists of equal parts of sodium bicarbonate and magnesium oxid. Tincture of belladonna, 10 drops before meals, increasing the dose to point of tolerance, is given. Olive oil, one tablespoonful before dinner and supper, and bismuth subnitrate, a rounding teaspoonful, before going to bed are also given. The patient eats five times a day, taking some milk with the addition of cream with buttered crackers between meals. Toasted bread, cold light bread, cereals with cream and sugar, beaten biscuits, cream soup, rice, hominy, butter, eggs—soft boiled or poached—creamed potatoes, sponge cake, tapioca and rice puddings are allowed. Fruits, salads, green vegetables, all fried food, gravy, meat soup and meat are avoided. After from six to eight weeks of this diet, new instructions are given. The patient is not allowed to have tea, coffee, alcohol, hot bread, cake, pancakes, puddings, pies, pastry, baked beans, pork, corned beef, raw vegetables, raw fruit, nuts, candy or any fried food. He may eat broiled or stewed beef, mutton, breast of chicken, fish, cooked vegetables, cooked cereals, cooked fruits, rice milk, cream soups, vegetable soups, and soft boiled or poached eggs. These instructions are to be carried out from six months to a year and maybe indefinitely.

Pathology of Biliary Tract

DR. WILLIAM HOWARD LEWIS, Rome: In spite of all the surgery of the upper right abdomen, the final solution has not as yet been reached. Removal or drainage of the gallbladder cannot be determined by a table of logarithms, and it is a field demanding the broadest experience and keenest judgment. I believe that much earlier operation in definitely established cases will afford the patient a larger measure of relief and the surgeon a greater degree of success, and will prevent a number of complications which now account for operative and postoperative perplexities and which eventually subtract years from the patient's life.

ASSOCIATION OF AMERICAN PHYSICIANS

Fortieth Annual Meeting, held in Washington, D. C., May 5-7, 1925

(Concluded from page 1869)

The Comparative Rate of Absorption of Fresh and of Old Tincture of Digitalis

DR. DOUGLAS VANDERHOOF, Richmond, Va.: In testing both fresh and old tincture on cats, it was found that the fresh tincture was much more rapidly absorbed, in the ratio of 71 to 100. We then carried out tests on ten healthy medical students. The lowering of the T-wave is the first action observable in human subjects. With fresh tincture, the drop in six hours was 33 per cent.; with old tincture, the result was the same after six hours. The final effect for both was: old tincture effect, 24.6; fresh tincture effect, 33.7; that is, about the ratio of 71 to 100, which agrees with the frog and cat method figures. This result did not occur in the intravenous cat method. The frog method gave an exact idea of the potency of the preparation. The tincture does not deteriorate when tested by the intravenous method, but there is a definite loss of absorbability with the passage of time, as tested by the lymph sac of the frog, the alimentary tract of the cat, and in the human subject.

The Basal Metabolism in Organic Heart Disease

DRS. W. W. HAMBURGER and M. W. LEV[illegible], Chicago: A patient whose lesion was diagnosed as advanced heart failure, a man of 53, had mitral stenosis and insufficiency. He had dizziness and cyanosis, and the question of hyperthyroidism arose. The basal metabolic rate was more than 100. Since then we have studied the basal metabolism in organic heart disease, and found that in 75 per cent. there was a rise in metabolic rate from 11 to 66 per cent. above normal, and as compensation returns the metabolic rate falls. If the metabolic rate falls, it gives a good prognosis. It often drops below normal and then goes back to normal. We have combined with this study data on vital capacity. The explanation of high metabolism in decompensation is due to increased activity of the heart muscle. In a patient with paroxysmal tachycardia, the metabolism rose during the periods of tachycardia. Increase in the respiratory rate gives no rise in the metabolic rate.

DISCUSSION

DR. C. F. HOOVER, Cleveland: Were any observations made on temperature during this rise? Did you notice any relation to thermal rise?

DR. HAMBURGER: Temperatures were taken in each instance, but at no time was there very much rise in temperature—not more than to 99 F.

DR. H. H. PLUMMER, Rochester, Minn.: I want to point out one warning there. When I got interested in doing basal rates we had Dr. Peabody's observation on the elevation of the basal rate in broken compensation. I immediately began to take up all the heart cases to get the basal metabolic rates. It was important to distinguish between the cases of broken compensation and hyperthyroidism as the cause of rise in basal metabolism. As we see the cases we have to draw conclusions on inference rather than on absolute facts many times. We have found very few cases relatively that had basal rates above normal from cardiac decompensation that did not prove later to be hyperthyroidism. I would give this warning—that a case that looks like a pure cardiac case with endocarditis with elevated basal rate (in patients over 40) more often is a case of adenoma of the thyroid. That is, a patient with basal elevation has a break in cardiac compensation. I do not know whether there is a definite independent hyperthyroidism in these cases, but in the majority of cases with primary cardiac disease there is also a complication of hyperthyroidism with adenoma, in patients over 40, so that the conclusion that the cardiac decompensation is the cause of the rise in metabolic rate should be taken with caution.

DR. S. A. LEVINE, Boston: I am familiar with some of the cases that Dr. Peabody studied years ago. There were not many that showed an elevated basal metabolism; except for two, none were more than plus 20. The interesting thing about one patient was that she came back three years later with a toxic adenoma. An analysis of these cases gave me the impression that cardiac failure does not elevate the metabolic rate appreciably. The group would probably average 15. Those cases above 25 years of age in which the patients were not nervous would show only a slight elevation. If it was high, we had to look for thyroid disease.

DR. FRANCIS W. PEABODY, Boston: Our work was done with the Duboscq calorimeter, and I think the cases were exceptional in which the elevation was above 25 per cent. We had a few cases 40 per cent. above the normal. One case was studied, not with the ordinary apparatus and mask, which would tend to exhaust a dyspneic, but in the calorimeter; there was no interference with respiration in that case. The age of the persons studied made it not unlikely that toxic adenoma was the cause. In New England adenoma is not common, but there are individual cases with more rapid respiration and with an emotional factor in which the metabolism rate is above the normal limit.

DR. H. H. PLUMMER, Rochester, Minn.: We have seen cases in which we have come to the same conclusion, that they were associated with broken compensation. We have seen rates plus 40 or plus 50.

DR. W. W. HAMBURGER, Chicago: In our case, the rate persisting over 39 made us think of the hyperthyroid element.

Aortic Insufficiency, Due to Rupture, by Strain of a Normal Aortic Valve

DR. C. P. HOWARD, Montreal: A chauffeur, aged 33, was admitted to the hospital complaining of distress, palpitation and anasarca. The history was negative; syphilis was denied. Oct. 6, 1924, he spent two minutes trying to crank the car, when he was seized with a tearing pain behind the sternum, shortness of breath and cough. He went home, suffering from these symptoms, and came to the hospital one month later. He was in extreme cardiac distress. There was fluid at the base of the lungs and a thrill over the base of the heart suggestive of an arteriovenous lesion. The heart was enlarged; the murmur continued throughout the cardiac cycle—a rough sawing systolic murmur, and a very peculiar, musical diastolic murmur. There was marked aortic insufficiency. My tentative diagnosis was ruptured foramen ovale. Fluoroscopy showed slight dilatation of the aorta. The patient failed rapidly with right sided heart failure. He died eleven weeks after the accident. The postmortem showed that the attachments of the cusps of the aortic floor were torn from the aortic wall. There was great dilatation of the left ventricle and right heart.

DISCUSSION

DR. W. S. THAYER, Baltimore: When I was an intern in the hospital, a woman had been there a month before, suffering from a severe apex pneumonia. She was about 40. Her heart showed no signs of abnormality. Later she was brought in one evening, cyanotic and dyspneic, unable to speak. They said she had been seized suddenly with severe pain in the chest, followed by dyspnea and collapse. The heart was much increased in size. The pulse was rapid. I thought I could hear a diastolic murmur in the left sternal margin. Next morning she died. Necropsy was done the following day, and exactly the same condition was found as Dr. Howard describes, with the exception that at the point of junction of the two valves there was a small plaque of atheroma, as large as one's little finger nail. The rupture occurred at that point. The patient died in twenty-four hours with signs of extreme cardiac collapse.

Valvulitis, as an Early Lesion of Rheumatic Fever

DRS. HOMER F. SWIFT, C. H. ANDREWS and C. L. DERRICK, New York: There are two theories as to the manner of development of rheumatic valvular disease: first, that it is due to the implantation of the causative agent at a certain point on the valve, causing necrosis of the endothelium with underlying cardiac structures; second, that the infectious agent is brought to the valve through the circulation of the valve itself. In many cases of fatal rheumatic fever we have characteristic Aschoff bodies throughout the myocardium. The subcutaneous nodules are an active, proliferating pathologic process. If the joints are examined post mortem, we get disseminated lesions through the periarticular tissues; therefore, interstitial lesions are characteristic of rheumatic fever. We feel from a study of cases that the rheumatic process in valvular disease is comparable to rheumatic inflammation elsewhere; namely, it is interstitial in character. This conclusion bears on therapeusis. The inflammatory process, occurring early in the valve substance, and throughout the course of the disease, shows that the indications for rest and prolonged treatment are much stronger.

DISCUSSION

DR. A. MCPHEDRAN, Toronto: Was the myocardium itself investigated as to level lesions of the muscle of the heart? I think the disease is not confined to the valve, but invades the heart as a whole. It is important to impress on the student that it is heart disease and not entirely valvular disease.

DR. H. F. SWIFT, New York: There was evidence of very definite myocarditis. There were many typical Aschoff bodies scattered throughout the heart.

The Prognosis in Subacute Bacterial Endocarditis

DR. EMANUEL LIBMAN, New York: The outlook depends on the type of case. In the form of the disease that has usually been recognized, running a course of from four to eighteen months or more, with high temperatures, positive blood cultures and embolic phenomena, very few recoveries are observed. In my first 150 cases of this type, there were four recoveries, 3 per cent. Since then, there have been other recoveries. One patient that recovered in 1913 now shows hypertension which appears to be of the usual type. One patient who had two attacks in 1917 is in good condition, his valvular lesion causing no symptoms. In a type of the disease of medium severity, there have been a few recoveries. A second group of cases comprises those that come under observation in what I have called the bacteria-free stage. This is essentially a nonfebrile condition. The cases are usually fatal. From recent experiences, however, the condition may last a long time and a recurrence may take place. In a third group can be placed the cases which I designate "transitional." They include: (*a*) positive blood cultures, disappearance of the bacteria and the fever, recovery, or death with symptoms like those of the bacteria-free stage; (*b*) negative blood cultures, fever still present but disappearing rapidly, outcome as in *a*; (*c*) negative cultures, afebrile, but with clinical phenomena indicating that the patient has very recently been in the bacterial stage. At the postmortem

examination of cases in the transitional group, the lesions are bacteria-free, healed or healing, or parts are bacteria-free and others are still bacterial. A fourth group consists of mild cases, such as were first described by Oille, Graham and Dettweiler. Such cases may be short or long in duration. The tendency to recovery in such cases is remarkable. In another group of cases we encounter recurrences. In a recurrent case the patient may recover or die. In at least two instances in which the patients came in in the bacteria-free stage and then developed a recurrence and died, the heart showed old healed lesions and evidences of a recent attack. Altogether, one finds a great deal of evidence of recurrence. It is probable that in some instances, as in rheumatic fever, the attacks may constitute a practically continuous process. Very important in regard to prognosis is the question whether subacute bacterial endocarditis can cause valvular disease or add to such a condition. Sir Thomas Lewis had this idea. I have evidence that tends to support it, especially in reference to aortic obstructive lesions.

DISCUSSION

DR. HENRY SEWALL, Denver: I should like to ask whether Dr. Libman has any facts or impressions as to the unusual feature of recurrence of attacks. Is there an extracardiac focus or is it possible that formation of excrescences can mobilize bacteria in the heart?

DR. EMANUEL LIBMAN: I believe that recurrences come mainly from focal infections.

DR. W. S. THAYER, Baltimore: I do not doubt the recurrence. I think, though, that it must be rare. But I know of no instance in which it might not just as well be steady progression. A clinical "constatation," as the French say, of recovery is rather rare. There may be recovery and reinfection, but I have not seen one case in which I was able to say definitely that this had been free, as proved by combined clinical and pathologic observations; that is, that there has been real recovery and then fresh infection.

DR. EMANUEL LIBMAN: My patients got well and are in good health at the present time with negative blood cultures.

Effect of Thyroid Medication on the Respiratory and Nitrogenous Metabolism of Normal and Myxedematous Subjects

DRS. W. M. BOOTHBY, J. SLOSSE and K. SANDIFORD, Rochester, Minn.: We have made various experiments on the effect of thyroxin and desiccated thyroid on the various phases of metabolism. We would emphasize the calorigenic action of thyroxin. Other factors besides this action were demonstrated. It was found that by giving 60 grains (3.9 gm.) of desiccated thyroid the metabolism is brought up. There is a curve with rise and decline, showing the catalytic action of thyroxin. The patient is kept on a known diet, with constant protein intake, and receiving thyroxin intravenously, plus desiccated thyroid by mouth. The patient starts with nitrogen equilibrium; then there is a negative nitrogen balance, which comes back to normal later. The creatinin nitrogen and ammonia nitrogen remain unchanged. The sodium chlorid shows no significant change. There is loss of weight by fluid. There is increase of urea nitrogen in the blood, with slight depression of hemoglobin. The equilibrium is reestablished if the experiment is carried far enough. The conclusions are that thyroxin causes a shift of the stored proteins in the body. This gives an opportunity to study the protein deposit in the body, and throws further light on White's "circulating protein."

DISCUSSION

DR. H. H. PLUMMER, Rochester, Minn.: The extremely toxic effect that occurs after the administration of thyroxin is related to this point. We see a large number of persons, in many cases of the type associated with the asthenic group, with low basal rates that are being classed as cases of hyperthyroidism. I pointed out before that when the basal rates dropped low (—18), evidence for diagnosis of myxedema appeared. These patients will use up the thyroid if they work too hard, and the symptoms will disappear if they rest. There is a shift up and down in the day's work. It is a perfectly natural thing to speak of that. There is a slow mental reaction of the patient which is due to reverse of hyperthyroidism. We cannot assume that this is the drop of the basal rate, but it is due to retention of products of metabolism, which occurs when thyroxin is low in the tissues. This causes the symptoms that we think of as myxedema. The major part of the complex is due to retention of these products.

DR. LEWELLYS F. BARKER, Baltimore: You spoke of loss of weight by fluid as well as loss of nitrogen. I think the equilibrium is restored later. It is similar to the storage of glycogen in the liver. What factor occasions storage and what occasions reestablishment of equilibrium? I should like to know what the opposing factor may be that compensates for protein storage.

DR. W. M. BOOTHBY, Rochester, Minn.: There is an interesting correlation between loss of weight and loss of nitrogen. In these experiments the loss of weight was 11 kg. Dividing the negative nitrogen balance by the various weights in each case, the nitrogen content was 1.8 in No. 1, 1.4 in No. 2 and 2.0 in No. 3. This suggests that we are dealing with an albuminous fluid of the consistency of white of egg or blood plasma. We were not dealing with edema of cardiorenal origin, in which I find there is not much nitrogen liberated when diuresis is produced. In regard to loss of weight, I think that the quantity of this deposit protein varies inversely with the thyroxin concentration.

Force of the Inspiratory Costal Excursion and Its Clinical Significance

DR. C. F. HOOVER, Cleveland: We have made the observation that, in examining the patient with a disparity of excursion, that on the left side is more easily perceived by palpation than by sight. We have been in the habit of palpating the vigor of the movement of the chest with the fingers. In a patient with closure of the transverse arch of the aorta, the man said that when he was lying down the chest felt stuffy; when he sat up, it was comfortable. If the figure of the ribs on the left was compared with that on the right side, the difference was very striking. To estimate the force of costal excursion, we obtained the services of an engineer who had experience in making measurements of compressed air in mines. Both lungs were charted in a case in which one half of the left bronchus was occluded at the lumen. There was 2,000 c.c. air in the free lung. We asked him how much suction increase would one have to have to get 2,000 c.c. of air in the occluded lung. The answer is that it would need an increase of 185 per cent., nearly three times the amount. Provided the suction remained the same, the time factor would have to be increased 67 per cent. In palpating the excursion of the ribs, one hooks the fingers over the upper borders of the first ribs. One can do all the ribs, by testing eight at a time with the fingers. By this means one can see which ribs have lost vigor. The extensibility is first attributable to the lung that is first perceived. A very moderate edema or infiltration with moderate encroachment on the lumen of the bronchus will show as a modification of extensibility. In a patient with early tuberculosis, who has had some blood spitting, both sides of the chest move symmetrically according to the eye. Percussion has not changed; but if a man is lying flat on the back, making respiratory movements, by palpating the third, fourth and fifth ribs one can pick out the side with the least vigor of excursion. This is useful in disease of the bronchi, pleura or lungs. It is also useful in neurologic cases. One can pick out a lesion of the spinal cord by picking out the level where excursion diminishes. This is easier to find than changes in sensation, in syringomyelia or syphilis of the cord. One simply picks out disparity in the excursion of the ribs. In apoplexy one can pick out paralysis of one side. In the intercostals we have bihemispherical supply, as in the facial muscles, with paralysis of the seventh. In nuclear, infranuclear, or supranuclear disease, if the motor neurons of the cord are preserved there will be enough left to give symmetrical movement of the ribs; but if one palpates with the hand, one can pick out the paralytic side. In paralysis of the abdominal muscles we have the phenomenon of a migratory umbilicus. If the patient coughs, the navel moves away

from the side of the paralysis. Another point is that the disparity of the vigor of excursion gives us a hint in mediastinal disease.

Intestinal Sporothricosis

DRS. T. R. BOGGS and HIRAM FRIED, Baltimore: We have recently had a clinical picture, due to this infection, that is so far unreported in the literature. The clinical manifestations were those of severe amebic dysentery. A woman, aged 60, was brought from her home in Tennessee to Baltimore, in a state of profound collapse and exhaustion psychosis. For six weeks she had had from two to twenty bloody stools a day, and no methods prevailed to reduce the intensity of the dysentery. She had attended a county fair and sold food, in which she also indulged herself. She became violently ill after this. She had moderate elevention of temperature, slight leukocytosis, marked secondary anemia, and slight pigmentation. Repeated examination for amebas were negative. We found double refractile bodies, looking like yeast cells, and culture of these showed the sporothrix group of fungi. The woman was so desperately ill that we did not work out the classification of the organism, but assuming that it was sporothrix we gave iodin. Iodin did not help much. Dr. Fried, in plating out the cultures, found that gentian violet affected the organism. The problem was to get this to reach the organism. Proctoscopy showed diffuse colitis with slight superficial ulcers in large numbers. Gentian violet intravenously did not help. Gentian violet is irritative to the stomach, so we coated it with phenyl salicylate, but some went through undissolved; still, in a week the patient began to recover. There were no more organisms in the stool, and later she became quite well. I noticed that the woman was in the habit of biting her finger nails, which had a curious rough, broken appearance. Cultures from the nails showed enormous numbers of this mycelium. The nails were treated with gentian violet and became quite normal in appearance. We thought then that by this means she had acquired pathogenic fungi in the intestinal tract.

DISCUSSION

DR. D. J. DAVIS, Chicago: I have been able to produce the disease in a rabbit by producing the sporothrix spores. In two animals I got infection of the glands of the mesentery, but no evidence of ulcers. I think this is a very important study because knowledge of the nature of the infection in sporothrix cases is very obscure.

Coccidiodal Granuloma

DRS. DAVID RIESMAN and F. E. AHLFELDT, Philadelphia: The case studied was in a boy of 5, with persistent fever, who had had influenza and double pneumonia. The tonsils had been removed. He then developed double otitis media. Later another difficulty appeared, in the form of a lump in the axilla and in the glands of the neck, and also below the hair line in the back, below the angle of the jaw. A gland was excised and we found *Coccidioides*. The child failed rapidly, and glands appeared all over the body which broke down with terrific rapidity, discharging pus of a café au lait color. The same organism was found in the pus from all glands. The child died after eight months' illness. There was no necropsy. There were masses in the mediastinum, with pleural effusion and ascites.

DISCUSSION

DR. D. J. DAVIS, Chicago: I had a case thirteen years ago that was diagnosed by Dr. Norman Gwyn. The patient was a man working in southern California; he scratched his ankle when working on the railroad and then developed this lesion. Some time later the foot was amputated. He developed other lesions on the body. Later the other foot was amputated; then the lesions spread to other parts of the body; now he has lesions involving the forearm and wrist. From the actively discharging lesions, the organisms can always be obtained in the pus. My impression is that as the cases become more chronic, the prognosis is much better. The more acute cases end fatally in the first few years. I should like to call attention to the possibility of the skin reaction being of use in diagnosis. I made a preparation of coccidia and got a definite susceptible skin reaction. Controls by sporomycelia were negative. When the diagnosis is established, the organisms can be grown readily and are easily found.

Air Inflation of the Duodenum in Pathologic Conditions of the Duodenum and Gallbladder

DRS. SOLOMON STROUSE and A. H. SHANBERG, Chicago: We studied referred pain in normal persons from the passing of a tube with a bulb at the end. The technic is simple. On the olive end of the duodenal tube we tie the distal part of a surgeon's rubber finger. On the upper end, a blood pressure instrument is used. All the work is done in the fluoroscope room. The referred pain may be intense but it can be relieved at once by release of air pressure. We had thirty-four cases. There were three kinds of pain reaction. The pain was located by the patient's finger: (1) a type was directly on the balloon; (2) there was a type referred to the xiphoid on line with the umbilicus; (3) there was pain to the right through the gallbladder region, giving intrascapular pain. Eight hospital patients with no sign of gastro-intestinal disease gave the first type of reaction. In the remaining twenty-six cases only one normal reaction was seen. We had fourteen cases of gallstones or adhesions in which pain was referred to the right, as in gallstone colic. In four cases of duodenal ulcer, three patients referred the pain to the xiphoid. One gave Type 1 reaction. We cannot draw any conclusions, but we are able to reproduce gallstone colic by inflation of the duodenum.

Practical Value of Neutral Red as a Test for Gastric Secretory Function

DRS. G. M. PIERSOL, H. L. BOCKUS and J. B. BANK, Philadelphia: We undertook this test to see whether it would throw any light on achylia gastrica clinically. Thirty cases were studied with the following technic: The test was preceded by a twelve hour fast. Then 4 c.c. of solution of neutral red was injected into the gluteal region. The gastric juice was recovered by the duodenal tube, and the time of appearance of the pink color was noted. In hyperacidity the average time was twenty-three minutes; in the normal it was fourteen; in hypo-acidity, thirty-two minutes. There seemed to be a delay in the hypo-acidity cases. We tried to estimate the amount of dye, but the quantity returned was so small that it was not a fair test. The test was worth more in cases of reduced acidity. In eleven cases of true achylia, no dye was recovered in half the cases. The drug appeared to be toxic in doses of 125 mg. intravenously. The result of the test showed that only a small part of the dye is excreted by the stomach, most of it being excreted by other organs. There is an approximate relation between the excretion of the dye and the acid of the stomach.

The Effects and Disappearance of Orally Administered Hydrochloric Acid in Normals and in Cases of Anacidity

DRS. J. H. AUSTIN, R. A. KERN and E. ROSE, Philadelphia: We have made studies on peptic and tryptic activity, as well as on free acid and total acid. At least 2 c.c. of dilute acid must be given in the test meal. Vanderhoof has reported giving large doses, from 4 to 8 c.c., in combined sclerosis with good result. We had difficulty in getting the patient to take 4 c.c. We found that in a small group of normals there is absence of hydrochloric acid, without symptoms. In milk-fed infants, in the first year, hydrochloric acid is rare, yet peptic activity is high. It would seem as if small doses, not sufficient to cause free acid, might be given clinically. In pernicious anemia there was no change after acid administration, but trypsin was found active. We think that if in pernicious anemia the changing of acid is to be attempted, a dose of from 4 to 8 c.c. should be given. It would be easier with a mixed meal than with the test breakfast.

Nature of the Lesions in Postoperative Pulmonary Complications

DR. NORMAN B. GWYN, Toronto: Lesions may be classified as: (1) early irritative; (2) embolus. Some lesions often overlooked are: fat embolism, phlebitis, irritative

lobular lesions and massive collapse. Fat embolism may occur at once after operation. In severe embolus there is preliminary fever, then a drop to normal, then formation of embolism. We have found that every case of acute painful pleurisy in pulmonary postoperative records has a tendency to form embolism. We have found that cases of minor emboli tend to recover, but those of gross emboli are usually fatal. Often emboli occur when recovery has begun to take place. These lesions occur after clean operative wounds, without complications. The signs of embolus are sudden cyanosis, collapse, unconsciousness or death. Abscess often follows lobular pneumonia. Minor embolism may also occur and causes acute pleural pain. These cases have a low mortality. Gross embolism kills the patient. Most cases come from operation in the gynecologic service.

Current Medical Literature

AMERICAN

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Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

29: 433-579 (April) 1925

*Effect of Diphtheria on Cardiovascular System. I. Heart in Faucial Diphtheria. H. M. Marvin, New Haven, Conn.—p. 433.
*Intramuscular Use of Ether in Pertussis. A. Tow, New York.—p. 477.
*Clinical Course of Vaccine Treated Pertussis in Private Practice. C. A. Aldrich, Winnetka, Ill.—p. 486.
Epidemic of "Glandular Fever" in Preparatory School for Boys. C. C. Guthrie and J. F. Pessel, Lawrenceville, N. J.—p. 492.
*Kidney: Filter for Bacteria. I. Bacteria in Blood, Kidney and Urine Following Intravenous Injection. H. F. Helmholz and F. Millikin, Rochester, Minn.—p. 497.
*Id. II. Effect of Diuresis on Excretion of Bacteria by Kidney. H. F. Helmholz and R. S. Field, Rochester, Minn.—p. 506.
Perineal Testicle; Case. J. M. Frawley, Rochester, Minn.—p. 513.
Abdominal Pain Due to Gallstones, in Child Aged Nine Years. D. Paterson and W. G. Wyllie, London, Eng.—p. 516.
Case of Intestinal Obstruction, Probably in Utero. I. S. Ravdin, Philadelphia.—p. 518.
Intraperitoneal Transfusion with Citrated Blood. D. M. Siperstein, Minneapolis.—p. 519.

Heart in Diphtheria.—Marvin reports the results of an electrocardiographic and clinical study of ninety patients with diphtheria and a brief review of the literature concerning the circulatory system in diphtheria is given. The only abnormalities in the electrocardiograms which seemed to be of significance in this study were disturbances in auriculoventricular or intraventricular conduction. Sinus arrhythmia occurred invariably in young patients with heart rates below 95 per cent. Auricular and ventricular premature beats, sinoauricular block, and variations in the form of P wave were noted seldom and appeared to have no significance. No evidence was obtained to indicate that in some patients the heart was primarily injured and in others the peripheral circulation suffered the first and greatest damage. In patients with circulatory impairment, the picture seemed to be that of myocardial failure. The signs of myocardial involvement which appeared to be of greatest value were vomiting, hepatic engorgement and a change in the character of the first heart sound. Syncope occurred but once and gallop rhythm was noted only three times. There was a complaint of abdominal pain in five of the thirteen fatal cases. Necropsy in five cases revealed widespread myocarditis. In one case the entire conduction system was profoundly damaged, in one the sino-auricular node alone was affected and in the others the conduction system appeared normal. The vagus nerves were found to be normal in one case; they were not examined in the others. Electrocardiograms have proved of considerable value in diagnosis and prognosis.

Injection of Ether in Pertussis.—Tow studied the effect of intramuscular injections of ether in seventy-eight cases of pertussis. Only sixty-one of these cases were available for analysis. Commercial ether was used in doses of from 1 to 2 c.c., the smaller dose being given to children under 1 year of age. The point of election for injection was posteriorly, about two inches (5 cm.) below the middle of the crest of the ilium deep down almost to the bone. Injections were made daily for from three to six days and then every other or third day, according to the need of the patient. If there was no improvement after five or six injections, they were discontinued. Fifty of the children were aided. The number of paroxysms was reduced and their severity lessened; the patients slept better; their appetite improved, and vomiting also was lessened. Eleven children were not aided. Seven patients had necrotic areas at the site of injection.

Vaccine Therapy of Pertussis.—The results of vaccine therapy in a carefully followed series of sixty-five consecutive cases of pertussis and the results of vaccine prophylaxis in seventeen consecutive pertussis contacts seen during the same epidemic are recorded by Aldrich. Patients treated after the onset of symptoms had slightly milder attacks, which terminated somewhat earlier than as outlined in standard textbooks. There were no complications except the usual bronchitis. There is evidence that in some the disease was aborted during the catarrhal stage. Some cases were prevented. Only four of the seventeen patients given prophylactic treatment developed pertussis. As to the course of the disease, the average duration was about six weeks, with definite and lasting improvement beginning less than four weeks from the onset. The average patient was up with paroxysms three or four times at night during the height of the disease. The vomiting was of short duration. As to the best time for treatment, the duration of the disease and the length of time before improvement were approximately the same, regardless of the time of treatment, but the patients treated later had slightly severer attacks. The occurrence of several cases in which it appeared that the disease was aborted in the catarrhal stage, however, makes it seem advisable to give treatment as early as possible.

Kidney; Filter for Bacteria.—No bacteria were found by Helmholz and Millikin in the urine in the four-hour period. Virulent staphylococci were the only bacteria found regularly after seven hours; they were also found exceptionally after six and five hours. Virulent and avirulent colon bacilli, virulent and avirulent streptococci, and avirulent staphylococci were found with no regularity even after twenty-four or forty-eight hours. The histologic findings bear out the relation of pathologic lesions to the excretion of bacteria in rabbits injected with staphylococci. Bacteria injected intravenously undergo phagocytosis, but are not excreted by the kidney in the time interval usually considered adequate for that purpose.

Effect of Diuresis on Excretion of Bacteria by Kidney.—Helmholz and Field assert that diuresis produced by sucrose, dextrose, or sodium chlorid does not break down the kidney filter for bacteria. The change brought about by active diuresis does not allow bacteria to pass through the kidney after a twenty-four hour interval.

American Journal of Electrotherapeutics and Radiology, New York

63: 127-162 (April) 1925

Electrothermic Coagulation: Its Indications and Limitations. H. L. Northrop.—p. 127.
Physiotherapeutic Methods in General Practice. F. T. Woodbury, New York.—p. 132.
Pruritus Ani. M. A. Lyons.—p. 139.

American Journal of Obstetrics and Gynecology, St. Louis

9: 445-591 (April) 1925

Contraindications to Use of Radium in Gynecology. W. P. Graves, Boston.—p. 445.
Intracranial Hemorrhage in New-Born. W. Sharpe and A. S. Maclaire, New York.—p. 452.
Appendicitis in Children; Cases. G. V. A. Brown, Detroit.—p. 463.
Field of Partial Gastro-Enterostomy in Treatment of Ulceration of Stomach and Duodenum. W. W. Babcock, Philadelphia.—p. 473.
Differential Diagnosis in Certain Abdominal Conditions. R. T. Morris, New York.—p. 486.
Sarcoma of Ovary in Children and Young Girls. L. C. Scheffey, Philadelphia.—p. 490.

Suprapubic Sphincter Tightening. H. D. Furniss, New York.—p. 503.
Prolapse of Culdesac of Douglas or Posterior Vaginal Enterocele. L. E. Phaneuf, Boston.—p. 507.
Dangers Resulting from Apparently Trivial Gynecologic Procedures. J. A. McGlinn, Philadelphia.—p. 520.
Some Phases of Dysmenorrhea. C. J. Miller, New Orleans.—p. 524.
Weight Factor in Pregnancy. L. M. Randall, Rochester, Minn.—p. 529.
*Hemoclasic Crisis Test in Pregnancy. W. S. Reveno and W. E. Welz, Detroit.—p. 535.
Case of Cyllosoma. S. A. Wolfe, Brooklyn.—p. 540.
Case of Atresia of Cervix. D. Feiner, Brooklyn.—p. 544.

Hemoclastic Crisis Test in Pregnancy.—Out of thirty-nine healthy pregnant women subjected to this test, by Reveno and Welz, only three showed a positive reaction; twelve showed an alimentary leukocytosis, while the remainder showed a reaction which could not be interpreted. Of interest is the occurrence of a hemoclastic crisis in two of the patients who were undergoing intensive syphilitic treatment at the time the test was performed. This, however, happened to be the only evidence of liver derangement (if any were present at all) that these patients presented. It is believed that the evidence procured in this series does not warrant the routine use of the hemoclastic test of Widal as a test for liver function in pregnancy.

American Journal of Ophthalmology, Chicago

8: 353-432 (May) 1925

Recurrent Tumor (Inflammatory) of Brow with Unusual Histolcgic Findings. A. B. Reese, New York.—p. 353.
Extraction of Senile Cataract in Capsule. A. Elschnig, Prag, Czecko-Slovakia.—p. 355.
Use of Roentgen Ray in Uveoparotitis. B. H. Jackson, Scranton, Pa.—p. 361.
Collateral Manifestations of Uveitis. R. von der Heydt, Chicago.—p. 363.
Retinal Hemorrhages and Arteriosclerosis with Tobacco-Alcohol Amblyopia. W. Zentmayer, Philadelphia.—p. 365.
Allergic Reactions in Vernal Conjunctivitis. L. Lehrfeld, Philadelphia.—p. 368.
Atypical Retinitis Pigmentosa. H. F. Hansell, Philadelphia.—p. 374.
Scotoma Plate Attachment for Perimeters. F. B. Blakmar, Columbus, Ga.—p. 377.
Scleroconjunctival Stitch in Cataract Extraction. G. S. Derby, Boston.—p. 381.
Ocular Findings in Two Lepers. J. J. Horton, Eagle Pass, Texas.—p. 382.
Use of Red Free Light in External Examination of Eye. J. W. Downey, Baltimore.—p. 383.
Monocular Color Blindness Noticed After Blow on Head. J. E. Jennings, St. Louis.—p. 384.
Traumatic Atrophy of Iris. H. L. Hilgartner, Austin, Texas.—p. 385.

American Journal of Roentgenology and Radium Therapy, New York

13: 307-410 (April) 1925

Relation Between Physiologic Dominance and Biologic Effect of Rays. W. T. Bovie, Boston.—p. 307.
Histologic Changes in Gastric Mucosa (Pawlow Pouch) of Dog Following Irradiation. A. B. Dawson, Chicago.—p. 320.
Is Irradiation Satisfactory Treatment for Substernal Thyroid? G. W. Grier, Pittsburgh.—p. 327.
Different Metallic Filters Used in Radium Therapy. E. H. Quimby, New York.—p. 330.
Metastatic Manifestations of Hypernephroma in Bone. R. Dresser, Boston.—p. 342.
Ureteral Variations with Associated Kidney Changes. D. J. Roberts, Hartford, Conn.—p. 353.
*Roentgenologic Study of Skeletal Remains of Prehistoric Mound Builder Indians of Ohio. H. J. Means, Columbus.—p. 359.
Oral Administration of Sodium Tetrabromphenolphthalein. T. O. Menees and H. C. Robinson, Grand Rapids, Mich.—p. 368.

Pathology of Mound Builders' Skeletons.—Means has made the first roentgenologic study of the skeletal remains of more than 500 mound builder Indians of Ohio. The same pathologic conditions were demonstrated that exist today. It has been clearly proved that syphilis existed and was a fairly common disease.

Archives of Internal Medicine, Chicago

35: 405-536 (April 15) 1925

*Life Cycle of Peptic Ulcer. B. B. Crohn, S. Weiskopf and P. W. Aschner, New York.—p. 405.
*Gastric Motor Activity in Patients with Peptic Ulcer. M. Ortmayer, Chicago.—p. 423.
*Nonspecific Ulcerative Colitis. J. M. Lynch and J. Felsen, New York.—p. 433.
Elective Localization of Bacteria in Peptic Ulcer. R. L. Haden, Kansas City, Mo.—p. 457.
Experimental Morphin Poisoning. L. C. Scott, F. A. Loria and J. C. Tardo, New Orleans.—p. 472.
*Action of Digitalis in Presence of Coronary Obstruction. H. Gold, New York.—p. 482.
*Experimental Production of Hypertension. F. R. Nuzum, M. Osborne and W. D. Sansum, Santa Barbara, Calif.—p. 492.
*Effect of Ingestion of Yeast on Leukocyte Count. E. L. Heintz and W. H. Welker, Chicago.—p. 500.
*Mercurochrome-220 Soluble as Biliary Antiseptic. J. H. Hill and W. W. Scott, Baltimore.—p. 503.
Blood Volume. I. Method for Determination of Whole Blood Volume Based on Circulating Corpuscle Volume. W. Ashby, Rochester, Minn.—p. 516.
*Asthenia as Chief Complaint in Carcinoma of Stomach. A. M. Master, New York.—p. 527.

Life Cycle of Peptic Ulcer.—Crohn et al. summarize their findings and views as follows: Chronic peptic ulcers may form within two or three weeks of the onset of symptoms. Chronic ulcers achieve their maximum size within a few weeks and do not thereafter extend their borders. Pathologic and roentgenographic evidence indicates that healing in the intermission stage does progress. The degree of healing and its permanency depends on various factors. Histologic evidence indicates that healing takes place by the filling of the crater of the ulcer with firm granulation tissue, by retraction of the muscularis, by contracture of the opening and by regeneration of the mucous membrane. Cases of duodenal ulceration in which there has been hemorrhage seem to heal most readily. Neither pathologic evidence of healing nor roentgenographic demonstration of the disappearance of the niche is to be considered as proof of clinical cure. A certain number of ulcers eventually heal completely; others do not, and these become surgical cases. The mishaps after gastroenterostomy furnish many illustrations of the constitutional tendency of ulcers to reform in the same or in new sites of the stomach wall.

Gastric Motor Activity in Peptic Ulcer.—No evidence was obtained by Ortmayer that sodium bicarbonate and calcium carbonate relieve the pain of ulcer through lowering tension or tone or through decreasing peristalsis of the stomach. The experiments do not bear out the theory that the peristalsis causes the pain.

Nonspecific Ulcerative Colitis.—A clinical and pathologic review made by Lynch and Felsen of forty-one cases of nonspecific ulcerative colitis shows this affection to be a distinct clinical entity of obscure origin. The best results from treatment have been obtained by means of colonic irrigations. In a study of twelve cases of peptic ulcer from the standpoint of a positive causal relation of dental infection, cultures from foci of infection in dental areas were made by Haden. The organisms recovered were streptococci in pure culture or associated with staphylococci. Fifty-three per cent. of forty-five rabbits injected intravenously with the broth cultures from the twelve patients showed, at necropsy, gross lesions of the stomach or duodenum. Seven per cent. of 535 rabbits injected intravenously with cultures from dental infection of 191 patients not known to be suffering from peptic ulcer showed similar lesions. The experimental duodenal lesions were practically always confined to the duodenal bulb. The results here reported furnish confirmatory proof of Rosenow's theory of elective localization and the infectious theory of peptic ulcer. Dental infection is an important factor in the causation of gastric and duodenal ulcer.

Action of Digitalis in Coronary Obstruction.—More than fifty experiments have been performed by Gold on the cat to determine whether coronary occlusion changes the tolerance of an animal to the toxic action of the digitalis bodies. Evidence is cited which shows that theoretic generalizations in connection with the response to digitalis in disturbances of the cardiac mechanism, or in conditions leading to such disturbances, are not justified. The average fatal dose of digitalis (ouabain) for seventeen animals with varying degrees of coronary obstruction was the same as that for normal animals. The experimental data lend no support to the fear that in the presence of coronary occlusion digitalis may precipitate ventricular fibrillation more readily than in the normal heart.

Experimental Production of Hypertension.—The results of experiments made by Nuzum et al. suggest that excessive

protein diets will cause an increase in blood pressure. In addition, evidence of disturbed renal function is found by the presence of albumin and casts in the urine, and by the increase of nitrogenous end products, nonprotein nitrogen and urea nitrogen in the blood. It is suggested that diets containing an excessive acid or alkaline ash, necessitating the excretion of excessively acid or alkaline urines over long periods of time, might, in themselves, be responsible for degenerative blood vessel and kidney changes.

Effect of Yeast on Leukocyte Count.—Heintz and Welker conclude that in most cases the ingestion of three cakes of yeast daily causes a marked increase in the leukocyte count in apparently normal persons.

Mercurochrome as Biliary Antiseptic.—According to Hill and Scott, mercurochrome-220 soluble experimentally meets the requirements of a biliary antiseptic, in that it is excreted in the bile in strong bacteriostatic and bactericidal strength, and is of low enough toxicity to allow its safe clinical use intravenously or by mouth. The trial of mercurochrome clinically in both latent and acute gallbladder infections is not only justified but also clearly indicated from the experimental findings.

Asthenia, Symptom of Carcinoma of Stomach.—Master is convinced that asthenia is a characteristic symptom of gastric cancer. It may be the only symptom or precede all other symptoms for months. The presence of asthenia and anemia, with absence of gastro-intestinal symptoms in a middle-aged person with no apparent cause for the anemia, Master regards as an indication for gastro-intestinal roentgen-ray examination. In fact, on this complaint alone, if no cause for the severe secondary anemia can be found, an exploratory laparotomy should be performed. Anemia, secondary or even primary, is a diagnosis which should immediately bring to mind a possible differential diagnosis of carcinoma of the stomach. The anemia, when present, is probably due to destruction of the red blood cells by a substance produced by the new growth. The asthenia is due to this anemia, or to the toxic products caused by the infection and ulceration of the growth. The practically constant subacidity, anacidity or achylia suggests that the absence of the gastric secretions plays an important rôle in the anemia, and hence the complaint of weakness. The association of the same findings in pernicious anemia adds interest to this suggestion. Cases are presented in which the symptom of weakness preceded by months or years the diagnosis of cancer of the stomach.

Archives of Ophthalmology, New Rochelle, N. Y.

54: 217-319 (May) 1925

Epithelial Dystrophy and Recurrent Erosion of Cornea as Seen with Slit-Lamp. S. R. Gifford, Omaha.—p. 217.
Projection and Double Vision. A. Duane, New York.—p. 233.
Intradermal Test with Uveal Pigment in Iridocyclitis. A. Knapp, New York.—p. 252.
Case of Tubercular Iridocyclitis with Fatty Degeneration and Infiltration of Anterior Segment of Eye. O. Landman, Toledo, Ohio.—p. 261.
Protein Content of Aqueous Humor. F. H. Adler and E. M. Landis, Pittsburgh.—p. 265.
Case of Amyloid Degeneration of Conjunctiva. R. E. Wright, Madras, India.—p. 280.
Knapp Adrenalin Mydriasis Reaction in Direct Descendants of Patients with Primary Glaucoma. M. J. Schoenberg, New York.—p. 282.
Origin of Gliosis Retinae in Cases of Staphyloma Cornea. P. S. Soudakoff, Peking, China.—p. 288.
Heterochromia Iridis. F. H. Haessler, Milwaukee.—p. 298.
Circumscribed Lamellar Lens Change Probably Inherited. E. E. Blaauw, Buffalo.—p. 305.

Atlantic Medical Journal, Harrisburg, Pa.

28: 417-484 (April) 1925

Acute Intestinal Obstruction. W. H. Howell, Altoona.—p. 417.
Carcinoma of Colon, Above Sigmoid Flexure in Childhood. J. M. Wainwright, Scranton.—p. 419.
Postoperative Intestinal Obstruction. J. B. Deaver, Philadelphia.—p. 421.
Systemic Nature of Chronic Infectious Arthritis. P. S. Hench, Rochester, Minn.—p. 425.
Purulent Pericarditis in Childhood. A. C. Wood and W. N. Bradley, Philadelphia.—p. 436.
Nonsurgical Treatment of Dacryocystic Blennorrhea. E. B. Heckel, Pittsburgh.—p. 445.
Roentgen Ray in Diagnosis of Chest Conditions. J. E. Livingood, Reading.—p. 447.
Differential Diagnosis of Early Tuberculosis. G. R. Harris, Pittsburgh.—p. 449.
Diphtheria; Diagnosis and Prevention. H. S. Wieder, Philadelphia.—p. 451.
Tumor of Breast. P. R. Sieber.—p. 454.
Etiology of Heart Disease. F. W. Mathewson, Oakdale.—p. 456.
Case of Bilateral Ovarian Carcinoma with Metastases in Young Woman, Aged 23. B. Z. Cashman.—p. 457.

Boston Medical and Surgical Journal

192: 883-938 (May 7) 1925

*Arterial Hypertension. W. D. Reid, Boston.—p. 883.
*Yellow Vision Associated with Digitalis Poisoning: Case. H. Jackson, Jr., and L. G. Zerfas, Boston.—p. 890.
Pyelonephritis. A. H. Crosbie.—p. 893.
*Intra-Abdominal Diagnosis of Gallbladder Disease. C. Bearse, Boston.—p. 897.
Ossification of Peroneal Tendon or Sesamoid, in Region of Its Attachment at Base of Fifth Metatarsal. L. A. O. Goddu, Boston.—p. 899.
Lead Stearate Poisoning in Rubber Industry. H. J. Cronin, Cambridge.
Progress in Study and Treatment of Cardiovascular Disease in 1924. H. B. Sprague and P. D. White, Boston.—p. 902.

Arterial Hypertension.—A theory as to the cause of arterial hypertension is suggested by Reid.* It is that a reduction of the calcium in the body removes or weakens the inhibitory influence of the vagus nerve and then the sympathetic nerve stimuli which are known to augment or increase blood pressure are unopposed. Then it is that substances such as the guanidin compounds should readily be able to cause a higher blood pressure by stimulating the relatively unopposed sympathetic nervous system, which may, perhaps, also be in a hypersensitive condition. Arterial hypertension results from stimuli emanating from the sympathetic nervous system. It is suggested that a diet deficient in calcium, a common fault in the diet of civilized races, is the primary cause of arterial hypertension.

Yellow Vision Associated with Digitalis Poisoning.—Jackson and Zerfas cite the case of a woman with angina pectoris and chronic myocarditis who developed attacks of yellow vision while taking tincture of digitalis, 15 minims, three times daily.

Gallbladder Disease.—Observation of several cases convinced Bearse that when the symptoms of gallbladder disease are such that an operation is indicated, a normal appearing gallbladder does not mean that the diagnosis was incorrect. In such cases the interior of the gallbladder should be inspected; the finding of a strawberry mucosa, minute particles of cholesterin on the gauze, and stagnant or stringy bile are evidences of pathology. Since the disease is in the gallbladder walls, cholecystectomy is the operation of choice.

Colorado Medicine, Denver

22: 155-190 (May) 1925

Wound Infection and Use of Rubber Sponges in Closure of Dead Spaces, Fecal and Urinary Fistulae, etc. L. Freeman, Denver.—p. 164.
Responsibility of University School of Nursing. M. Russel, Denver.—p. 167.
Medical Forgeries. S. D. Van Meter, Denver.—p. 169.
Cults. C. Powell, Denver.—p. 178.
How Oral Sepsis Becomes Factor in Systemic Diseases. J. W. Seybold, Denver.—p. 183.

Florida Medical Association Journal, St. Augustine and Jacksonville

11: 167-196 (Jan.) 1925

Regional and Block Anesthesia. A. M. C. Johson, Tampa.—p. 167.
Maxillary Sinusitis, Chronic: Sixty Cases. J. W. Taylor, Tampa.—p. 173.
Prophylaxis Against Psychopathies in Social and General Practice. T. A. Williams, Washington, D. C.—p. 179.
Some Psychotherapeutic Suggestions for Relief of Indigestion. G. M. Niles, Atlanta.—p. 182.
Gas Gangrene Complicating Compound Fractures. G. E. W. Hardy, Tampa. —p. 185.
Therapeutic Intramuscular Milk Injections. L. A. Hodson, Miami.—p. 189.
Lethargic Encephalitis. R. A. Gowdy, Miami.—p. 192.
Treatment of Appendicitis. L. S. Oppenheimer, Tampa.—p. 193.
Bronchoscopic Treatment of Lung Abscess in One of Advanced Years. W. J. Knauer, Jacksonville.—p. 194.

Georgia Medical Association Journal, Atlanta

14: 135-176 (April) 1925

Treatment of Diabetes. J. D. Gray, Augusta.—p. 135.
Gas Bacillus Infection. J. K. Quattlebaum, Savannah.—p. 1391.
Pelvic Infection in Female. W. H. Myers, Savannah.—p. 144.

Illinois Medical Journal, Oak Park

67: 321-400 (May) 1925

Morbid Attitudes and Beliefs. C. M. Campbell, Boston.—p. 339.
Pneumonia. B. Maloy, Chicago.—p. 345.
Treatment of Goiter. N. J. MacLean, Winnipeg, Canada.—p. 354.
Puerperal Infections. F. F. Maple, Chicago.—p. 358.
Diagnostic and Therapeutic Roentgen-Ray Irradiation in Pregnancy. W. A. N. Dorland and M. J. Hubeny, Chicago.—p. 362.
Sewage Disposal in Illinois. P. Hansen, Chicago.—p. 366.
Ultraviolet Light Therapy in Nose and Throat Diseases. A. B. Middleton, Pontiac.—p. 368.
Congenital Pyloric Stenosis. Refeeding Method of Treatment and of Possible Prophylaxis. J. R. Gerstley, Chicago.—p. 371.
Intraperitoneal Injection of Fluids in Infants. W. L. Crawford, Rockford.—p. 374.
Abscesses of Oral and Pharyngeal Regions. W. D. Black, St. Louis.—p. 378.
Radiofrequency Electricity in Surgery. N. H. Lowry, Chicago.—p. 383.
Mucocele of Appendix; Case. W. H. Myers, Coal Valley.—p. 386.
Health in Industry. F. Wieland, Chicago.—p. 388.
Closed Method of Treating Empyema in Children. R. B. Bettman, Chicago.—p. 391.
*Prevention of Postoperative Intestinal Incompetence. L. Long, Oklahoma City, Oklahoma.—p. 393.

Prevention of Postoperative Intestinal Incompetence.—Long emphasizes the importance of rest and sleep and water in the prevention of postoperative gastro-intestinal symptoms and of abstaining from the use of cathartics. He uses: (1) lavage, repeated every two or three or four hours, if necessary, until the material returned does not indicate regurgitation of intestinal contents, or, if it is preferred, he advises to introduce a duodenal tube and let it stay in, the necessity being to keep the stomach, and incidentally, the upper intestine as free as possible of toxic material; (2) morphin; (3) water by proctoclysis, hypodermoclysis, or some other appropriate way. (4) Give nothing by mouth. (5) Introduce the end of a colon tube just well above the sphincter occasionally, and let it remain for an hour or two.

Indiana State Medical Association Journal, Ft. Wayne

18: 125-166 (April 15) 1925

*Tryparsamide in Neurosyphilis. E. R. Smith, Indianapolis.—p. 125.
Importance of Hypothyroidism; Cases. G. W. McCaskey, Fort Wayne.—p. 129.
Management of Gonorrhea in Male. N. K. Forster, Hammond.—p. 132.
Iodin as Mental Stimulant. F. H. Luck, Bloomington.—p. 136.

Tryparsamide in Neurosyphilis.—In practically all of forty-six cases reported on by Smith, nothing but tryparsamid was given during the time they were under treatment. The groups included all degrees of severity of neurosyphilis from the asymptomatic to the demented. Clinically, there has been improvement in thirty-one cases, and marked improvement in fifteen cases. Serologically, the improvement has been less, showing some change in only 57 per cent. and this change being principally in the cell count. Only three cases showed a negative serology as a result of treatment. Two patients died during treatment, but nothing was discovered that pointed to the drug's being responsible in either case. Four patients developed visual difficulty; two, complete blindness. One of the severely ill patients recovered vision completely and the other two about one-half normal. The most satisfactory results were found in the paretics and the meningovascular cases. Comparatively few tabetics have shown any considerable degree of improvement.

Iowa State Medical Society Journal, Des Moines

15: 225-276 (May 10) 1925

*Management of Diabetes Mellitus with Maintenance Diets. R. B. Gibson, K. Z. Mitchell and R. N. Larimer, Iowa City.—p. 225.
Early Diagnosis of Pulmonary Tuberculosis. L. T. Curry, Waterloo.—p. 233.
Preparation of Material for Laboratory Examination. M. Herzberg, Sioux City.—p. 237.
Early Diagnosis of Glaucoma. E. P. Weih, Clinton.—p. 240.
Bladder Tumors. N. G. Alcock, Iowa City.—p. 244.
Medical Treatment of Empyema; Chemotherapy. R. H. Major, Kansas City.—p. 248.
Progress in Thoracic Surgery. C. A. Hedblom, Madison, Wis.—p. 251.
Art of Medicine. F. A. Ely, Des Moines.—p. 255.
Head Injuries. F. R. Holbrook, Des Moines.—p. 263.

Maintenance Diets for Diabetes.—Gibson, Mitchell and Larimer outline the treatment employed in more than 200 cases of diabetes admitted to the University Hospital at Iowa City. Samples of the diets prescribed are given.

Journal of Biological Chemistry, Baltimore

63: 547-799 (April) 1925

Use of Rat for Vitamin B Studies. E. V. McCollum, N. Simmonds and J. E. Becker, Baltimore.—p. 547.
Effect of Additions of Fluorine to Diet of Rat on Quality of Teeth. E. V. McCollum, N. Simmonds and J. E. Becker and R. W. Bunting, Baltimore.—p. 553.
Enzymatic Synthesis of Protein. IV. Effect of Concentration on Peptic Synthesis. H. Borsook and H. Wasteneys, Toronto.—p. 563.
Id. V. Synthesizing Action of Trypsin. H. Wasteneys and Borsook, Toronto.—p. 575.
Nitrogenous Constituents of Juice of Alfalfa Plant. III. Adenin in Alfalfa. H. B. Vickery and C. S. Leavenworth, New Haven, Conn.—p. 579.
Effect of Intravenous Injection of Inorganic Chlorids on Composition of Blood and Urine. M. Whelan, Rochester, Minn.—p. 585.
Saponins. I. Sapogenin Obtained from Soapnuts. W. A. Jacobs, New York.—p. 621.
Saponins. II. Structure of Hederogenin. W. A. Jacobs, New York.—p. 631.
*Action of Trypsin on Insulin. D. A. Scott, Toronto, Canada.—p. 641.
Phenylhydrazin Derivatives of Pyrimidines. P. A. Levene, New York.—p. 653.
Studies on Racemization. Action of Alkali on Dextro-Alanyl-Dextro-Alanine Anhydride. P. A. Levene and M. H. Pfaltz, New York.—p. 661.
Sphingosine. V. Synthesis of l-Amino-2-Hydroxy-n-Heptadecane. P. A. Levene and H. L. Haller, New York.—p. 669.
Isolation of Crystalline Adenine Nucleotide from Blood. W. S. Hoffman, Baltimore.—p. 675.
*Clinical Calorimetry. XXXVIII. Utilization of Carbohydrate in Case of Renal Glycosuria. W. S. Ladd and H. B. Richardson, New York.—p. 681.
*Tetany of Parathyroid Deficiency and Calcium of Blood and Cerebrospinal Fluid. A. T. Cameron and V. H. K. Moorhouse, Winnipeg, Canada.—p. 705.
Physical Chemistry of Proteins. V. Molecular Weights of Proteins. Part I. Minimal Molecular Weights of Certain Proteins. E. J. Cohn, J. L. Hendry and A. M. Prentiss, Boston.—p. 721.
Carbonic Acid-Carbonate Equilibrium and Other Weak Acids in Sea Water. L. Irving, Stanford University, Calif.—p. 767.

Action of Trypsin on Insulin.—The results of the experiments made on the proteoclastic action of trypsin on insulin, Scott says, would suggest that the primary action is a mutual adsorption phenomenon and that this is followed by complete proteoclastic destruction. This is in accord with the theory of enzyme action. The amount of trypsin necessary to inactivate completely insulin in vitro had no appreciable effect in vivo when injected immediately after the insulin. These results are contrary to those of Epstein and Rosenthal who found that trypsin inactivates insulin in vivo as well as in vitro. The experiments on the recovery of the latent potency and the proteoclastic action of trypsin on insulin indicate the advisability of using fresh pancreas and high acidity for obtaining a high yield of insulin.

Utilization of Carbohydrate in Renal Glycosuria.—Data presented by Ladd and Richardson show that a patient with renal glycosuria was able to utilize carbohydrate to the same extent as a normal individual. In other words, a moderate degree of permeability of the kidney to glucose can occur without any demonstrable defect in the oxidation of carbohydrate. As the power to oxidize glucose was not diminished, there appears to be no ground, so far as this patient is concerned, for believing that renal glycosuria is a preliminary stage of diabetes mellitus.

Blood Calcium and Parathyroid Tetany.—It is suggested by Cameron and Moorhouse that the constancy of the blood calcium depends on the slightly dissociable organic calcium compound present in the plasma, which holds a definite amount of inorganic calcium in the plasma through a series of interlocked equilibria. The direct cause of parathyroid tetany is due to the slight diminution (1 or 2 mg. per 100 c.c.) in the inorganic calcium of the plasma, resulting indirectly from a diminution of the organic compound. The apparent inability to restore calcium to normal levels by feeding calcium compounds, is due, not only to the fact that the organic calcium is no longer estimated in the serum, but also to the fact that its diminished amount can no longer prevent some of the normal amount of inorganic calcium from escaping. This indicates, clinically, that in order to prevent tetany repeated small doses of calcium salts should be given at frequent intervals. A modification of Alport's method of determining calcium in whole blood, which utilizes the Kramer-Tisdall method, is described.

Journal of Experimental Medicine, Baltimore

61: 587-690 (May 1) 1925

Variations in Specificity and Virulence of Pneumococci During Growth in Vitro. H. A. Reimann, New York.—p. 587.
Jaundice as an Expression of Physiologic Wastage of Corpuscles. P. Rous and D. R. Drury, New York.—p. 601.
*Suppression of Bile as Result of Impairment of Liver Function. D. R. Drury and P. Rous, New York.—p. 611.
Experimental Pneumonia in Mice Following Inhalation of Streptococcus Hemolyticus and of Friedlander's Bacillus. E. G. Stillman and A. Branch, New York.
Pathology of Experimental Pneumonias in Mice Following Inhalation of Streptococcus Hemolyticus, of Friedlander's Bacillus, and of Pneumococcus. A. Branch and E. G. Stillman, New York.—p. 631.
*Pneumonia Associated with Bacillus Abortus (Bang) in Fetuses and New-Born Calves. T. Smith, Princeton, N. J.—p. 639.
Composite Nature of Pure Culture of Virulent Pneumococcus. H. L. Amoss, Baltimore.—p. 649.
Surface Tension of Serum. XII. Accurate Study of Drop in Function of Time. P. Lecomte du Noüy, New York.—p. 663.
Distinctive Characteristics of Infections Produced by Treponema Pertenue in Rabbit. L. Pearce and W. H. Brown, New York.—p. 673.

Bile Suppression Result of Impaired Liver Function.—Demonstrations made by Drury and Rous show that even when one is supposedly dealing only with mechanical obstruction there may be a superimposed functional biliary disturbance. The failure of the liver parenchyma to take sodium indigotate out of the blood, is said to constitute additional evidence that functional impairment is a potent cause of bile suppression.

Bacillus Abortus Pneumonia.—A pneumonic condition in fetuses and new-born calves due to *Bacillus abortus* is pointed out for the first time by Smith, and its character, extent, and bearing on the epidemiology of pneumonia are discussed.

Journal of Immunology, Baltimore

10: 433-566 (March) 1925

Specific Hypersensitiveness. XII. Rat Precipitin. W. C. Spain and E. F. Grove, New York.—p. 433.
Id. XIII. Atopic Reagins. A. F. Coca and E. F. Grove, New York.—p. 445.
Id. XIV. House Dust Atopen in Asthma. C. A. Spivacke and E. F. Grove, New York.—p. 465.
Id. XV. Nature of Atopens of Pollens, House Dust, Horse Dander and Green Pea. E. F. Grove and A. F. Coca, New York.—p. 471.
Id. XVI. Antigens. Comparative Study of Antigenic Properties of Pollens, Egg-White and Glue, in Guinea-Pigs, as Determined by Intravenous and Dale Methods of Testing in Anaphylaxis. M. Walzer and E. F. Grove, New York.—p. 483.
Id. XVII. Preparation of Fluid Extracts and Solutions for Use in Diagnosis and Treatment of Atopic Conditions. A. F. Coca and E. L. Milford, New York.—p. 555.

Journal of Industrial Hygiene, Baltimore

7: 145-184 (April) 1925

Punctate Basophilia in Lead Workers. A. Sellers, Manchester, Eng.—p. 145.
Photography and Measurement of Fine Particles. H. Green, Palmerton, Pa.—p. 155.
Laundry Trade: III. Atmospheric Conditions in Laundries. M. Smith, London.—p. 166.
Manufacture of Tin Plates: Comparison of Old and New Tinning Processes. E. L. Collis and H. M. Vernon, London.—p. 171.

Journal of Laboratory and Clinical Medicine, St. Louis

10: 517-602 (April) 1925

*Gram-Positive Cocci in Vagina and Cervical Canal of Uterus. L. Arnold and L. Brody, Chicago.—p. 517.
*Liver Function in Various Diseases as Tested by Administration of Levulose. R. Finkelstein and M. Dannenberg, Brooklyn.—p. 522.
Relation of Urinary p_H to Salt and Water Metabolism in Nephrosis. M. B. Cohen, Cleveland.—p. 526.
Endo's Medium. C. C. Young and M. S. Marshall, Lansing, Md.—p. 532.
*Treatment of Nasal Diphtheria Carriers. C. Israeli, Manchester, N. H.—p. 536.
*Relation of Gallbladder to Development of Jaundice Following Obstruction of Common Bile Duct. F. C. Mann and J. L. Bollman, Rochester, Minn.
*Effect of Specific Cholecystitis on Bile Concentrating Activity of Gallbladder. J. L. Bollman, F. C. Mann and P. DePage, Rochester, Minn.—p. 544.
Application of Hench-Aldrich Urea Index to Spinal Cord. G. S. Graham and S. H. MacCarty, Birmingham, Ala.—p. 548.
Reading of Complement-Fixation Tests by Scale as Compared with Method Using Color Scale. R. Gilbert, M. F. Kelley and A. C. Moore, Albany, N. Y.—p. 552.
*Chlorid Content of Blood in Pernicious Anemia. R. L. Haden, Kansas City, Kan.—p. 557.
*Paul Test in Diagnosis of Smallpox. C. E. Simon and J. M. Scott.—p. 562.
Improved Colorimeter. J. A. Killian, New York.—p. 570.
Simplified Colorimetric Calculation. W. H. Stoner, Philadelphia.—p. 574.
Determination of Globulin Increase in Spinal Fluid. G. E. Rockwell, Cincinnati.—p. 578.
Drying Apparatus for Laboratory Vessels. J. C. Bock and M. Gilbert, Milwaukee, Wis.—p. 579.
Method for Preparation of Antisheep Hemolysin. R. A. Kilduffe.—p. 582.

Gram Positive Cocci in Vagina.—Arnold and Brody isolated 170 strains of gram-positive cocci from the vaginal tract: forty-eight staphylococcus, sixty-six enterococcus and fifty-six streptococcus. Two hundred and sixty-two strains were isolated from the cervical canal of the uterus: seventy staphylococci, ninety-six enterococci and ninety-six streptococci. The gram-positive cocci of the vaginal tract are said to resemble closely the corresponding cocci of fecal origin. Those cocci present in the cervical canal of the uterus under various pathologic conditions, resemble those of vaginal origin. With gradual extension of the fecal types up through the vagina to the cervix, certain biologic changes take place: the power to ferment mannite is gradually decreased and an increased pathogenicity for mice is probably acquired.

Levulose Liver Function Test.—Finkelstein and Dannenberg performed the levulose test on thirty-eight consecutive patients. The blood in twenty-six cases was tested by the Benedict method; in twelve cases by the Epstein method. The positive and negative results were equally divided. The nineteen cases in which no increase in blood sugar was observed represent fourteen different diseases. The other nineteen cases, representing twelve various diseases, gave an elevated blood sugar curve for a period of at least two hours. The test was positive in acute and chronic gallbladder infections (five cases); in icterus, in carcinoma of the pancreas, and in chronic passive congestion of the liver (four cases). The curve was also positive in a few other conditions in which there was no other clinical evidence of hepatic injury.

Treatment of Nasal Diphtheria Carriers.—Israeli uses a 10 per cent. ichthyol ointment. As much of the ointment as will hold on the end of the swab is carried gently all the way into the nasal cavity, entering the nasopharynx; another swab is used in the same way in the other nasal orifice. This method of treatment is carried out five consecutive days.

Relation of Gallbladder to Development of Jaundice.—The results of the experiments reported on by Mann and Bollman were very striking. Animals in which the common bile duct is obstructed and the gallbladder left intact do not have an appreciable amount of bile pigment in the urine for from thirty-six to forty-eight hours after operation; only a faint trace of bilirubin, if any, is found in the plasma at the end of twenty-four hours. The scleras do not develop an icteric tinge for from forty-eight to seventy-two hours. While the various animals differ slightly, it is usually forty-eight hours between the time of obstruction of the common bile duct, and the appearance of the first definite evidence that jaundice is developing. The subsequent development of icterus and the accumulation of bilirubin in the blood is also slow.

Bile Concentrating Activity of Gallbladder.—These experiments by Bollman demonstrate that the function of the gallbladder of concentrating the bile is impaired, or may be totally lost, in the presence of an acute inflammatory process in the gallbladder.

Blood Chlorid in Pernicious Anemia.—Chlorid determinations on thirty cases of pernicious anemia and twenty cases of secondary anemia are reported by Haden. These results give no positive evidence of a disturbance of chlorid metabolism in pernicious anemia.

Paul Test in Diagnosis of Smallpox.—In principle this method is based on the demonstration of macroscopically visible lesions in the inoculated rabbit cornea, in the sublimate alcohol bath, and the appearance of the affected areas in sections. Simon and Scott have modified the technic slightly. Their results in the examination of 247 cases bear out the validity of Paul's claim that the method is a depend-

able one and well suited for purposes of diagnosis. In forty-four of forty-five bona fide cases of smallpox the macroscopic reaction was sufficient to reach a diagnosis. In the remaining case the histologic picture was positive for smallpox.

Journal of Parasitology, Urbana, Ill.

11: 125-180 (March) 1925

Two Venezuelan Xiphidiocercariae. C. Uribe, Valera, Venezuela.—p. 125.
Zygocystis Cometa Stein, Gregarine Parasite of Earthworms. C. E. Mickel, Minneapolis.—p. 135.
Rhabditis Hominis Kobayashi in United States. J. H. Sandground, Baltimore.—p. 140.
Human Myiasis Caused by Ox-Warble Hypoderma Bovis de G. W. B. Herms, Berkeley, Calif.—p. 149.
Ingestion of Erythrocytes by Trichomonas Hominis and Its Occurrence in Pus of an Amebic Liver Abscess. J. F. Kessel, Peking, China.—p. 151.
Eosin-Criterion of Viability of Protozoan Cysts as Applied to Cysts of Hartmanella Hyalina Treated with Chlorin-Water. J. F. Kessel, Peking, China.—p. 153.
*Two New Cases of Human Creeping Disease (Gnathostomiasis) in China; Infection in Reservoir Hosts in China Area. K. Morishita, Formosa, Japan, and E. C. Faust, Peking, China.—p. 158.
New Diecian Cestode. E. Linton, Augusta, Ga.—p. 163.
Trichomonas from Guinea-Pig. M. Tanabe, Baltimore.—p. 170.

Human Creeping Disease; Gnathostomiasis.—Five indisputable cases of human gnathostomiasis have hitherto been reported. Four of these are referable to *G. spinigerum* and one to *G. hispidum*. Two new cases of human gnathostomiasis from China are added by Morishita and Faust. The new cases deal with very young forms, one of which caused a typical "creeping disease." The other may have also caused the same disease. Four cases of gnathostomiasis interna are recorded from dogs and cats in China.

Journal of Radiology, Omaha

6: 133-172 (April) 1925

Therapeutic Use of Various Qualities of Roentgen Rays and Radium. A. Bachem, Chicago.—p. 133.
Ultraviolet Energy in Office Practice. L. C. Donnelly, Detroit.—p. 138.
Ultraviolet Ray in Pain. W. A. Lurie, New Orleans.—p. 145.
Treatment of Systemic Infection with Actinic Ray. B. H. Sherman, Dexter, Iowa.—p. 148.

Military Surgeon, Washington, D.C.

56: 529-640 (May) 1925

H. O. E. in French Army (Primary and Secondary Evacuation Hospitals). H. Rouvillois.—p. 529.
1924 Annual Physical Examination of Officers on Duty in Philippines. J. F. Siler.—p. 558.
Artificial Anal Sphincter. J. Izquierdo.—p. 577.
*Tuberculosis in Filipino Troops. G. R. Callender, C. A. Shepard and R. C. Kirkwood.—p. 579.
*Chlorin Gas Treatment of Respiratory Diseases. H. L. Gilchrist.—p. 606.
Simple Apparatus for Chlorin Gas Administration. R. H. Pierson and D. W. Sullivan.—p. 614.

Tuberculosis Among Filipino Troops.—This study by Callender, Shepard and Kirkwood reveals an incidence of manifest tuberculous lesions in 7.3 per cent. of white troops and 18.7 per cent. of Filipino troops. As age increases, the rates by age decrease in white troops and increase in Filipino troops. Competent examiners will reject about 30 per cent. of all Filipino applicants for tuberculosis alone, while the average examiner will reject approximately 20 per cent., if properly instructed and on the watch for evidence of this disease. Male Filipinos of military age show a high resistance to the progress of tuberculosis lesions and apparently frequently do not ask for medical assistance during periods of activity unless considerable hemorrhage or marked advance of the process occurs.

Chlorin Gas Treatment of Respiratory Disease.—Gilchrist says that chlorin gas does cure colds, but asks whether these favorable results may not be accomplished by means other than the destruction of known organisms. Its accomplishment may be the result of strengthening the resistance of the body, thus enabling it to ward off the causes of these respiratory troubles.

New Jersey Medical Society Journal, Orange

22: 145-188 (May) 1925

Treatment of Pneumonia with Diathermy. H. H. Kessler, Newark.—p. 170.

New York State Journal of Medicine, New York

25: 713-754 (May) 1925

Etiology of Cystic Ovary. G. L. Rohdenburg and A. M. Helman, New York.—p. 713.
Poliomyelitis. E. L. Hunt, New York.—p. 722.
Hypertension and Treatment of Nephritis. F. M. Allen, Morristown, N. J.—p. 726.
*Fallacies of Negative Preoperative Urine Reports. H. L. Nelms, Albany.—p. 733.
Prenatal Care. J. O. Polak, Brooklyn.—p. 735.

Negative Preoperative Urine Reports.—Nelms is of the opinion that single negative morning specimens of urine are unreliable in ruling out the presence of nephritis or diabetes. Twenty-four hour specimens are more reliable, but a negative twenty-four urine does not mean much. Phenolsulphonephthalein tests are helpful if carefully done, but a high two-hour output will often give the surgeon a sense of false security, and a low output may cause anxiety where there need be no fear. Blood pressure readings are of value but not conclusive. The blood sugar concentration and either the nonprotein or the urea nitrogen content of the fasting blood are the most conclusive single determinations that the surgeon can depend on in ruling out the presence of nephritis or diabetes in preoperative cases.

Philippine Journal of Science, Manila

26: 311-444 (March) 1925

*Cholera Vaccination; Its Effectiveness. O. Schobl and J. Andaya, Manila.—p. 311.
Agglutinin Formation Following Use of Castellani's Glycero-Vaccine. C. Manalang, Zamboanga, P. I.
Anthomyiid Genus Dichaetomyia Malloch (Diptera) in Philippines. J. R. Malloch, Washington, D. C.—p. 321.
Study of Ceuthorhynchini. A. Hustache, Lagny, France.—p. 333.
New Species of Cardinal Fish from Philippines. A. W. C. T. Herre, Manila.—p. 341.
Carangoid Fishes Found in Waters of Formosa. M. Oshima, Formosa, Japan.—p. 345.
New Thynnid Wasps from Oriental and Australian Regions. S. A. Rohwer, Washington, D. C.—p. 415.
Tenebrionids (Coleoptera) of Indomalay District. H. Begien, Hamburg, Germany.—p. 423.

Effectiveness of Cholera Vaccination.—It was evident from the investigations made by Schobl and Andays that the antibodies produced by the injection of cholera vaccine persisted in the blood of the vaccinated persons between six and ten months, and that the degree of immunity and the duration of immunity following anticholera vaccination are directly dependent on the amount of the vaccine injected, but more so on the number of injections given, barring individual variations. The wholesale vaccination in areas where outbreaks occur every year, as well as in places where sporadic cases occur during the off season, should be completed at least one month before the time when an epidemic may reasonably be expected to occur.

Rhode Island Medical Journal, Providence

8: 71-86 (May) 1925

Moles, Warts and Epitheliomata. R. Blosser, Providence.—p. 71.
Is Rhode Island Ready to Have Law Authorizing Eugenic Sterilization of Mental Defectives and Criminals? H. A. Jones, Cranston.—p. 75.

Surgery, Gynecology and Obstetrics, Chicago

60: 593-446 (May) 1925

*Substitution of Erector Spinae for Paralyzed Gluteal Muscles. P. H. Kreuscher, Chicago.—p. 593.
*Gynecologic Conditions Treated with Radium Alone or Combined with Surgery. One Hundred Fifty-Six Cases. W. S. Smith, Brooklyn, —p. 598.
*Movable Kidney. C. P. Mathe, San Francisco.—p. 605.
*Successful Cardiorrhaphy. D. L. Maguire, Charleston, S. C.—p. 623.
*Drainage of Thoracic Duct in Peritonitis. L. D. McGuire, Rochester, Minn.—p. 626.
Surgical Complications of Diabetes Under Insulin Treatment. L. T. Gager, New York.—p. 630.
Torsion of Great Omentum. T. F. Mullen, Pocatello, Idaho.—p. 635.
*Superfetation. J. M. Maury, Memphis, Tenn.—p. 642.
*Use of Sodium Tetra-Iodophenolphthalein in Cholecystography. G. Milliken and L. R. Whitaker, Boston.—p. 646.
Gastric Tetany; Fatal Case. I. Busch, New York.—p. 654.
*Hematogenous Osteomyelitis; Seventy-One Cases. W. T. Doran and L. Brown, New York.—p. 658.
Elbow Fractures and Dislocations; Analysis of One Hundred Eighty-One Cases. I. E. Siris, Brooklyn.—p. 665.
*Hematuria; 933 Cases. H. L. Kretschmer, Chicago.—p. 683.
Prolapse of Female Urethra. T. J. Watkins, Chicago.—p. 687.

Residual Urine in Women. A. H. Curtis, Chicago.—p. 689.
*Sedimentation Test in Obstetrics and Gynecology. J. L. Baer and R. A. Reis, Chicago.—p. 691.
Management of Occipitoposterior Position. S. J. Scadron, New York.—p. 697.
Pneumoperitoneum as an Aid in Diagnosis of Obscure Pelvic Lesions and Early Pregnancy. L. E. Burch, Nashville, Tenn.—p. 703.
Closing Endometrium in Cesarean Section. O. C. Cox, Washington.—p. 706.
*Modified Mayo Umbilical Hernitomy. C. A. Roeder, Omaha.—p. 707.
Simple Method of Connecting Glass Syringe and Plunger. R. E. Farr, Minneapolis.—p. 708.
Submucosa Dissector. A. J. Graham, Chicago.—p. 709.
Flexo-Extensometer. H. E. Conwell, Fairfield, Ala.—p. 710.

Supplying Motion to Paralyzed Hip.—Kreuscher uses the outer half of the erector spinae muscle, plus silk sutures, to supply motion to a paralyzed hip. The sutures are attached to the trochanter and femur.

Radium in Uterine Diseases.—Smith's impressions are that radium, heavily screened with one millimeter of platinum and 2 mm. of rubber and used within the uterus in 1,200 to 2,400 mg. hour doses, even with repeated administrations, causes no untoward effect on bladder and rectum and produces very little troublesome leucorrhea. Radium alone is an excellent treatment for chronic metritis and small fibroids at the menopause age, curing most of the cases with one 1,200 mg. hour dose; but even a 2,400 mg. hour dose will not always control the bleeding indefinitely in all patients. For advanced cases of cancer of the cervix and corpus, radium, as a palliative measure, gives more relief than any other treatment at our command. In early cervical cancers, the Byrne cautery operation, and radium at the same session, with or without roentgen-ray treatment later, give results which are so valuable that it should be thoughtfully considered as a possible standard method of treatment.

Nephropexy.—Mathe employed nephrophexy with success in 96 per cent. of the thirty cases operated on. Of those patients, 46 per cent. had obtained no relief from mechanical supports, although they had been employed for some time, varying from six months to one year.

Successful Cardiorrhaphy.—Maguire sutured a wound in the right auricle, the result of a stab with a knife. The patient made a perfect recovery.

Drainage of Thoracic Duct in Peritonitis.—*Bacillus prodigiosus,* injected intraperitoneally in cases of experimentally produced peritonitis, could not be recovered by McGuire from lymph from the thoracic duct. Lymph from the thoracic duct in cases of peritonitis in dogs did not appear highly toxic, comparatively large amounts producing no effect when injected intravenously in rabbits. Dogs with experimentally produced peritonitis were not benefited by drainage of the thoracic duct. All of them died.

Superfetation.—In the case reported by Maury there were two fetuses, one intra-uterine and one extra-uterine, showing a difference in development. There were two corpora lutea, one in each ovary, showing marked difference in development, the difference being in the arrangement of the cells and the amount of connective tissue present. Though the ectopic fetus was dead, and there were some signs of degeneration present, these changes were not enough to give the impression that the fetus had been dead any length of time. Though not fulfilling all the requirements necessary for absolute proof, still this case apparently proves superfetation beyond a reasonable doubt.

Medium for Cystography.—Experience both in laboratory and clinic indicates that sodium tetra-iodophenolphthalein is a safe and satisfactory drug for the purpose of cholecystography. Milliken and Whitaker believe that their evidence demonstrates its superiority over sodium tetrabromphenolphthalein. They have had only four reactions severe enough to cause headache or vomiting in a series of forty cases.

Hematogenous Osteomyelitis.—The necessity of early diagnosis and proper surgical treatment of this condition is advocated by Doran and Brown. Too few of the cases in this series of seventy-one cases were recognized as osteomyelitis in the early stage when proper surgical intervention would have promised a short convalescence. The majority of these that did receive early care recovered within four months, on the average. Early surgical treatment is the only means of reducing the morbidity and mortality. If sufficient drainage is instituted in the early stages, destruction of the cortex is avoided and convalescence is short. If the time from onset to operation is measured in hours, the convalescence is short. If the time from onset to operation is measured in hours, the convalescence is measured in weeks; if measured in days the convalescence is measured in months or years.

Hematuria.—Experience with 933 cases leads Kretschmer to regard hematuria as only a symptom, but, he says, it should always be considered as indicative of the presence of serious organic disease in the genito-urinary tract. Every case of hematuria should be subjected to complete, comprehensive genito-urinary examination to determine, first, the origin of the blood, and, second, the cause of the bleeding. There is never any justification for treating cases of hematuria on a purely symptomatic basis. This series proves the important assertion that the most frequent causes of hematuria are tumor, stone, tuberculosis, infection and nephritis.

Value of Sedimentation Test in Diagnosis of Pregnancy.—Observations made by Baer and Reis tend to show that the sedimentation test is apparently of no value in the early diagnosis of pregnancy. It is useful in determining the presence or absence of infection in the body. With pelvic pathology, a negative sedimentation test (a sedimentation time over two hours) conclusively rules out pelvic infection. The rate of sedimentation is directly proportional to the virulence of the infection. The test is a further aid in determining the safe time for operation. The sedimentation test seems a more delicate prognostic index, good or bad, than either the leukocyte count or temperature curve.

Modified Umbilical Herniotomy.—Roeder's modification of the Mayo operation aims to leave the umbilicus, for cosmetic reasons only.

Southwestern Medicine, Phoenix, Ariz.

9: 171-212 (May) 1925

Chronic Diarrhea Due to Infection of Duodenum by Giardia Intestinalis: Cases. F. D. Garrett, El Paso.—p. 172.
Syphilis. I. C. Sutton, Hollywood, Calif.—p. 175.
Periodic Physical Examinations by Family Physician. Z. Causey, Douglas.—p. 178.
Functional Impotence in Male. C. S. Vivian, Phoenix.—p. 180.
Effective Remedy in Metal Poisoning; Special Reference to Lead. S. T. Harris, El Tigre, Mexico.—p. 183.
Nose. C. E. Patterson, Tucson.—p. 184.
Importance of Careful Diagnosis of Abdominal Cases. R. L. Ramey, El Paso.—p. 186.

U. S. Naval Medical Bulletin, Washington, D. C.

22: 511-647 (May) 1925

Biophysiotherapeutic Procedure in Treatment of Nonmalignant Diseases of Colon. H. V. Hughens.—p. 511.
Tryparsamide and Sulpharsphenamin in Treatment of Neurosyphilis. R. P. Parsons.—p. 526.
*Mercurochrome-220 Soluble, in Infections of Genito-Urinary Tract. J. E. Potter.—p. 542.
United States Naval Prison, Portsmouth, N. H., from Aspect of Medical Officer. P. T. Crosby.—p. 553.
*Epidermophytosis. W. B. Wolfe.—p. 562.
Urinary Calculi. G. F. Cottle. —p. 575.
Leukocytosis in Acute Infections. F. S. Johnson.—p. 584.
*Use of Extractives of Chaulmoogra and Cod Liver Oils in Leprosy and Tuberculosis. F. J. Vurpillat.—p. 587.
Leprosy. J. E. Malcomson.—p. 594.

Mercurochrome in Genito-Urinary Diseases.—Potter says that mercurochrome-220 soluble can be administered very advantageously in ambulatory cases by giving smaller doses over a longer period than usual with longer intervals between injections, and that definitely positive results may be obtained. This report is based on results obtained from treating seventy-seven such patients.

Epidermophytosis.—Wolfe has found the simple compound benzoic-salicylate acid ointment of Whitfield the most effective means of combating this disease. In cases in which the itching is a pronounced symptom a single application suffices to give great relief; and, in the usual cases of eczema marginatum, or in cases of epidermophytoses of the smooth skin, the application of this ointment serves to clear up the lesions in a week. The formula generally employed is: acid salicylic, 1 gm.; benzoic acid, 2 gm., and petrolatum, 15 gm.

Chaulmoogra and Cod Liver Oils in Leprosy and Tuberculosis.—Vurpillat is of the opinion that recorded results from the use of chaulmoogra and cod liver oils in leprosy and tuberculosis warrant further experimentation and more general trial in tuberculosis.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Medical Psychology, London

5: 1-60 (May 18) 1925

Consciousness. C. S. Myers.—p. 1.
Professor Freud's Group Psychology and His Theory of Suggestion. W. McDougall.—p. 14.
Suggestion and Personality. W. Brown.—p. 29.
William Brown and the Immortal Hour. H. Crichton-Miller.—p. 35.
Technical Terms for Various Dynamic States of Mind. P. Y. Johnson.—p. 45.

British Medical Journal, London

1: 909-952 (May 16) 1925

*Crippling Due to Fractures. R. Jones.—p. 909.
*Hemoclastic Crisis Test for Liver Function. A. F. B. Shaw.—p. 914.
*Actinomycosis of Pleura; Two Cases. D. W. Patterson and F. J. Nattrass.—p. 918.
Torsion of Gallbladder. L. R. Fifield.—p. 920.
Otitic Intracranial Infection. H. L. Whale.—p. 920.
Prolapse of Intestine Distal to Colostomy C. M. Greenslade and F. J. S. Hall.—p. 921.
Treatment of Diabetes by Raw Fresh Gland (Pancreas). H. P. Kelly.—p. 921.
Roentgen Rays in Treatment of Whooping Cough. J. W. J. Willcox.—p. 922.
Poisoning by Eucalyptus Oil. J. S. Sewell.—p. 922.
Sacralization of Fifth Lumbar Vertebra with Pressure on Lumbar Plexus. R. B. Henderson.—p. 922.
Secondary Carcinoma Treated with Deep Roentgen Rays. A. Turnbull.—p. 922.

Fractures.—Jones would place the treatment of fractures on a different plane. Students must be taught, and teachers must be wisely chosen. In developing a scheme, certain general principles must be agreed to: (1) The necessity for the segregation of inpatient fractures either: (*a*) in wards under the control of a special surgical unit, or (*b*) in special wards not allocated to one unit alone. (2) The creation of a special outpatient fracture clinic, to be included with the fracture wards as part of a general scheme. (3) A surgeon in charge of the fracture department should be a consultant, the director of a unit, and one in whose practice and teaching the treatment of fractures will be maintained during the whole of his active surgical career. If there exists an orthopedic department, as should be the case in every teaching hospital, the chief of this department should be one of the surgeons in charge of fractures—even if he is not the only one. In an ideal scheme the fracture wards should form part of the orthopedic service; this would simplify both the organization and the teaching. No real advance in the treatment of fractures will ever take place if the department is placed on a secondary plane, which is inevitable if the system is inaugurated or maintained of leaving it under control of a junior surgical officer, who makes this position a mere stepping-stone to some other surgical post. The plan of instruction is: once or twice a week there should be an outpatient fracture clinic, which all senior students are obliged to attend. At least twelve attendances should be compulsory. No formal lectures are needed, but, instead, a series of clinical demonstrations, in which groups of fractures are collected and compared, and instruction given in relation to diagnosis, prognosis and end-results. More especially the student should be taught the principles that underlie the prevention of deformity and its correction. The roentgen ray department should be in close touch with the fracture clinic. The student should be taught never to lose an opportunity of obtaining a roentgenogram and, above all, to endeavor to derive instruction in interpreting it. The student should not leave the fracture clinic without having practical experience, not merely in putting on plaster bandages, but applying them artistically and well. Nor should he be certified until he has a sound working knowledge of the application of splints.

Hemoclastic Crisis Test of Liver Function.—Observations on the hemoclastic crisis have convinced Shaw that Widal's hemoclastic test for liver function lacks a theoretical basis, and in practice is of no value in the diagnosis of hepatic insufficiency. During physiologic rest the number of leukocytes in the peripheral blood is subject to considerable and rapid fluctuations, though there are phases in which a state of equilibrium exists. There is no evidence that the ingestion of milk, casein, butter fat and distilled water in certain quantities, or the local application of cold, influences the leukocyte content of the peripheral capillary blood, the oscillations following these stimuli being the same as the physiologic variations during rest. The phenomena of "digestion leukocytosis" and "digestion leukopenia" described in connection with the hemoclasic test are simply physiologic variations and not the response to ingestion of foodstuffs. The conflicting conclusions as to the value of the hemoclastic test arose from a failure to recognize that normally the leukocyte content is in a state of flux, and consequently that a single count made before the test does not represent a state of equilibrium.

Actinomycosis of Pleura.—Patterson and Nattrass report two cases from which certain facts are emphasized. The authors state that evidence is accumulating against the view, originally put forward by Bostroem, that the infection is conveyed to man from vegetable sources. Such a mode of infection cannot be considered as likely in either of their cases. One patient was a shipyard laborer; he had not handled grain or straw, nor worked at any time on a ship which had carried a grain cargo. The other was an assistant in a drapery shop, who had never lived outside Newcastle. The pathway of entry of the organism also remains uncertain. Actinomycosis of the lung is a well recognized affection, and in a second of the cases cited here infection could be explained by inhalation; in the first case, however, no pulmonary lesion at all was found at necropsy, and the disease remained throughout limited to the pleura and adjacent mediastinal tissues. Invasion from the skin is certainly not the explanation in this case, as the skin in the early stages was quite normal in appearance and freely movable over the underlying process. Inhalation into the main bronchi with infection of the mediastinal glands and subsequent lymphatic spread to the pleura is unlikely, as there was no trace of any lesion in the bronchi, and the only mediastinal gland involved was a small one on the side opposite to the pleural lesion. Finally, the possibility exists of infection by way of the eosphagus. The theory is that the mediastinum is infected from the esophagus, and thence the disease spreads directly to the pleura, usually in the lower part of the chest. In these cases, therefore, extensive disease is usually to be found in the mediastinum, but this was not so in the authors' case. The suggestion, therefore, is that the pleura was infected by the blood stream from an unknown primary focus, probably in the mouth or other part of the alimentary canal. Experience of treatment in these two cases was that potassium iodid, vaccine and roentgen rays were of no avail.

Glasgow Medical Journal

21: 273-327 (May) 1925

Preventive Aspects of Psychiatric Work. D. K. Henderson.—p. 273.
Aspects of Suppurative Otitis Media. S. Young.—p. 293.
Glycosuria and Jaundice Caused by Obstruction of Common Duct. H. E. Jones.—p. 303.

Journal of Mental Science, London

71: 187-352 (April) 1925

*Laboratory Aids to Diagnosis in Mental Diseases. P. K. McCowan.—p. 192.
Work of Belfast War Hospital. W. R. Dawson.—p. 219.
Lethargic Encephalitis. T. S. Good.—p. 225.
*Results of Treatment of General Paralysis by Malaria. W. M. McAlister.—p. 236.
*Epilepsy:. Fifty Cases. J. R. Lord.—p. 240.
Boarding-Out System in Scotland. G. Gibson.—p. 253.
Certification as a "Moral Imbecile." J. M. Ahern.—p. 264.

Laboratory Aids to Diagnosis in Mental Diseases.—McCowan asserts that more frequent examination of the cerebrospinal fluid in mental patients will lead to the detection of causal factors which might otherwise be missed, e. g., meningitis of various origins, cerebral tumors, trypanosomiasis, etc. Furthermore, diagnosis of syphilis of the

central nervous system cannot be left to the pathologist alone. The clinical findings must also be taken into account. This is especially the case in tabetics, and for differential diagnosis between the various forms of syphilitic disease of the central nervous system. Although not emphasized in this paper, in which treatment has not been recorded, the last word often rests with the therapeutic test.

Malarial Treatment of General Paralysis.—In McAlister's opinion it is becoming more and more clear that artificial remissions of considerable duration may be produced by the use of malarial treatment, but that complete cure is outside the scope of the method.

Nature of Epilepsy.—Lord says that a study of the epileptic seizure persuades one that it is symptomatic of a great brain storm in which all or nearly all parts of the brain are involved. These seizures occur typically in idiopathic cases. Storms of a very similar nature also occur in coarse lesions and other forms of epilepsy. Epileptic seizures are the manifestations of a cerebral explosion more as regards organized brain function, inherited and acquired, than a mere chaotic and haphazard explosion of cerebral matter. The neurons would appear to be associated during an epileptic fit as in the normal state. This, in Lord's opinion, is the most distinguishing feature of a true epilepsy as compared with jacksonian attacks, whose progression of symptoms is merely anatomic. In the former there remains the indissoluble union between the motor, sensory and mental functioning of the brain, making an epileptic a risky, if not a dangerous, member of society.

Journal of Tropical Medicine and Hygiene, London

28: 169-184 (May 1) 1925

*Yellow Fever in Vera Cruz in 1920-1921. T. J. LeBlanc.—p. 169.

Yellow Fever in Vera Cruz.—Seven cases of yellow fever were studied by LeBlanc during the epidemic in Vera Cruz in the fall of 1920. Transmission of the disease to guinea-pigs was accomplished in one of the seven cases, and from the animals of the third generation a strain of *Leptospira icteroides* was isolated in pure culture. The strain induced in guinea-pigs all the typical symptoms of experimental yellow fever in this animal: fever, intense jaundice and nephritis, hemorrhages into the gastro-intestinal tract, and degeneration and necrosis of liver and kidney. Of seven cases of yellow fever treated with the anti-icteroides immune serum, all recovered except one, in which treatment was delayed until the latter part of the third day of illness; that is, the mortality among treated cases was 14 per cent. (one in seven cases) as against 43 per cent. (eighty-five in 197 cases) among untreated cases. The favorable effect of the treatment was evident within a few hours by the fall in temperature and pulse rate and by the improved subjective condition of the patient. Among 748 nonimmune persons vaccinated with the killed cultures of *L. icteroides*, two cases suspicious of mild yellow fever occurred after the lapse of one month, while among unvaccinated nonimmunes 199 cases of yellow fever occurred. While the number of nonimmunes present in Vera Cruz is not accurately known, it could not have been large, because of the small foreign population of Vera Cruz and the comparatively recent occurrence of epidemic yellow fever, hence it is believed that the vaccination considerably reduced the incidence of the disease.

Lancet, London

1: 1011-1064 (May 16) 1925

Lister's Great Achievement. W. W. Cheyne.—p. 1011.
*Rôle of Fats in Vital Phenomena. J. B. Leathes.—p. 1019.
*Carbohydrate Tolerance in Pregnancy. H. F. Höst.—p. 1022.
*Rickets and Cholesterol. O. Rosenheim and T. A. Webster.—p. 1025.
Treatment of Lupus by Ionization. J. B. Whitfield.—p. 1026.

Rôle of Fats in Vital Phenomena.—Leathes closes this, the fourth and last of his lectures on fat, as follows: Whichever way we turn, therefore, we find that what is known of proteins points to the impossibility of accounting for the properties of the cell substance by their aid alone. Whichever way we turn there are indications that what is known and what it is possible to learn of the properties of fat must be of service. The rôle of fats in vital phenomena is a subject on which it may be expected that much may turn that is of importance to physiologists and to physicians.

Carbohydrate Tolerance in Pregnancy.—It appears from Höst's experimental observations that the investigation of glycosuria after large doses of glucose, as recommended by many authors, is not valid as a diagnostic aid in pregnancy, because glycosuria occurs relatively frequently in nonpregnant women, while it is far from being constant in pregnant ones. Second, the experiments prove that there is a curious and characteristic difference in the blood sugar rise and position of the renal threshold in the first and second periods of pregnancy. Early in pregnancy the position of the threshold is normal and the blood sugar rise is often remarkably high, so that the glycosuria is due to the marked hyperglycemia and is not, as is generally believed, of renal origin. In the latter part of pregnancy, on the other hand, the blood sugar rise is usually small but the renal threshold, nevertheless, is often so low that glycosuria frequently occurs, which, therefore, in this stage of pregnancy, can rightly be termed renal. Finally, the work has made it probable that the corpus luteum causes the large and prolonged blood sugar rise which is characteristic of early pregnancy, while the low renal threshold in the later months appears to be dependent on the fetus or placenta.

Effect of Ultraviolet Light on Cholesterol.—Experiments made by Rosenheim and Webster show that irradiation of cholesterol with ultraviolet light confers on it definite antirachitic properties, both in the presence and absence of oxygen. Increasing the time of radiation seems to increase somewhat the amount of antirachitic substance. Taking the content of inorganic phosphorus in the blood as an index, it would appear that the limit of protection against rickets is reached by a dose of 0.2 mg., and this is especially marked in the half hour irradiation experiments.

Medical Journal of Australia, Sydney

1: 417-442 (April 25) 1925

Utility of Casoni Reaction in Diagnosis of Hydatid Disease. C. H. Kellaway.—p. 417.
Diagnosis of Urinary Stone and Hydronephrosis. J. T. Tait.—p. 418.
Ureter: Its Commoner Diseases. R. Bridge.—p. 421.
Psychoneuroses of Soldiers and Their Treatment. P. G. Dane.—p. 427.

1: 443-470 (May 2) 1925

*Present Position of Infantile Mortality. F. S. Hone.—p. 443.
Hemorrhagic Disease of New-Born. D. Galbraith and J. C. Lewis.—p. 449.
Fracture of Forearm. A. B. K. Watkins.—p. 452.
Outbreak of Measles on an Immigrant Ship. F. McCallum and G. A. Blumer.—p. 453.

Infant Mortality in South Australia.—Hone reviews infant mortality statistics in Southern Australia. The great majority of deaths occur in the first week of life. Their causation is, therefore, natal or antenatal. The two great causes at work in this field are syphilis and slovenly obstetrics. The great causes of death listed in this class are prematurity, congenital debility, malformations and accidents of childbirth.

South African Medical Record, Cape Town

23: 137-156 (April 11) 1925

Bronchitis. J. P. Duncan.—p. 139.
Treatment of Chronic Sepsis Following Osteitis. S. L. Sandes.—p. 142.
Etiology and Pathology of Acute Osteitis. C. F. M. Saint.—p. 143.
Treatment of Orthopedic Sequelae of Osteomyelitis. P. de V. Moll.—p. 144.
Case of Optical Iridectomy. M. Baranov.—p. 150.

23: 157-176 (April 25) 1925

Dystocia Result of Occipitoposterior Positions of Vertex. G. O. Thornton.—p. 158.
Antral Disease in Its Relation to Dental Conditions. R. L. Scott.—p. 162.
Symptoms of Osteomyelitis. C. C. Elliott.—p. 166.
Osteomyelitis from Urologic Standpoint. L. B. Goldschmidt.—p. 167.
Gasserian Ganglion Successfully Removed. R. L. Daly.—p. 168.
Immediate Treatment of Acute Osteomyelitis. H. A. Moffat.—p. 169.
Case of Chronic Ulcerative Colitis. I. J. Block.—p. 170.

Tubercle, London

6: 369-417 (May) 1925

Fallacies in Examination of Normal Chest. G. T. Hebert.—p. 369.
Embryology and Histology of Lung and Pleura. S. R. Gloyne.—p. 374.
Anatomy of Chest. J. B. Hume.—p. 380.
Roentgenography of Normal Chest. O. Riviere.—p. 382.

Annales de l'Institut Pasteur, Paris

39: 299-385 (April) 1925

Microbiology of the Soil. M. S. Winogradsky.—p. 299.
Reversibility of Diastase Actions. Bertrand and Compton.—p. 355.
*Rapid Hemolytic Test in Tuberculosis. J. Valtis.—p. 365.
*Flocculation of Antimeningococcus Serums. Dujarric de la Rivière and E. Roux.—p. 368.
The Capsule of Bacteria. R. Legroux.—p. 382.

Rapid Method for Complement Fixation in Tuberculosis.—Using Boquet and Nègre's methyl antigen, Valtis applied the Mutermilch serologic test for syphilis to the serum from 80 persons with a negative Wassermann reaction. The serums were examined simultaneously by Calmette's method. In 39 patients with unmistakable tuberculosis, the hemolysis index was below 3 in one patient; in the others, the fixation reaction was positive in 84.4 per cent. and in 78.9 per cent. with the Calmette method. In 41 nontuberculous patients the hemolysis index was below 3 in 9 instances. In the others, complement fixation occurred with the tuberculosis antigen in 2 with a positive Wassermann reaction. In the remaining 30, the fixation reaction was positive in 16.7 per cent., and in 15.6 per cent. with the Calmette technic. Valtis' method is simple and rapid, he says, but titration of the antibodies may be less exact than with Calmette's method.

Flocculation Test for Meningococcus Antiserums.—An emulsion of tincture of benzoin and an alcohol extract of meningococci in physiologic solution of sodium chlorid induced flocculation in antimeningococcus serums. This did not occur with antitoxic serums. It is possible that rapid and intense flocculation under these conditions might aid in titration of antimicrobic serums.

Annales de Médecine, Paris

17: 285-435 (April) 1925

*Relations Between the Lung and Heart Functioning. E. Rist.—p. 285.
Pseudoparadoxic Pulse with Distention of the Heart. E. Rist and J. Walser.—p. 307.
Oxygen Content of the Arterial Blood in Pulmonary Tuberculosis and in Induced Pneumothorax. R. Hilton.—p. 322.
Course of Lesions in Collapsed Lung. J. Rolland.—p. 327.
Sudden Onset of Chronic Lung Tuberculosis. A. Dudan.—p. 363.
Tuberculous Antibodies and Tuberculin Skin Reaction in Course of Artificial Pneumothorax. J. E. Wolf.—p. 380.
Local Sensitization from Tuberculin Tests. M. Weiss.—p. 408.

Correlation Between the Functioning of the Lungs and the Heart.—Rist points out that displacement of the mediastinum during inspiration is a constant phenomenon in unilateral bronchostenosis, and an important sign in unilateral pulmonary sclerosis. The phenomenon is observed frequently in a spontaneous and always in artificial pneumothorax. Distention of the lung during inspiration and in systole may be noted in an induced pneumothorax. Kienböck's phenomenon is independent of the condition of the diaphragm. Exaggerated extension of the heart beat to one side indicates pneumothorax in the mediastinal pleura. Distention of the heart during inspiration occurs with sclerosis of both lungs and with an extensive emphysema. The phenomenon explains the cardiac insufficiency in both affections, and is visible in roentgenograms. Rist and Walser add that the phenomenon is responsible for the pseudoparadoxic pulse appearing chiefly in bilateral pulmonary sclerosis. Thus the sphygmomanometric and sphygmographic findings are confirmed by roentgenograms.

Archives Franco-Belges de Chirurgie, Brussels

28: 89-182 (Feb.) 1925

*Spinal Cord Tumors. L. Poussep.—p. 89.
Diagnosis and Treatment of Spinal Tumors. Adson.—p. 125.
*Telangiectasis of Spinal Cord. Frazier and Russel.—p. 140.
Laminectomy in Spinal Compression. G. Potel.—p. 146.
Compression of Cauda Equina. Costantini and Azoulay.—p. 152.
Action of Caffein on Meninges. Chauvin and Jaur.—p. 156.
Cervical Ribs. P. Feutelais.—p. 161.

Diagnosis and Treatment of Spinal Cord Tumors.—Poussep reviews his twenty-two cases, with surgical intervention in seventeen. Operations for extramedullary tumors were followed by complete recovery in eight instances, and by marked improvement in five. Fatal issue after operation occurred in one of the two cases with a tumor in the cord; in the other the improvement was very slight. The diagnosis was aided by determination of the tension of the spinal fluid: while change from the horizontal to a vertical position greatly modifies the tension in normal persons, this modification does not manifest itself with spinal tumor, causing interruption of the continuity of the subdural space. Sensory disturbances of syringomyelia type, indicate an intramedullary tumor. Radicular disturbances before any symptoms of spinal cord compression as well as pain located in a vertebra, are decisive in the diagnosis of extradural tumors.

Case of Telangiectasis in Spinal Cord.—The tumor, observed in a man, aged 50, was situated between the seventh and tenth dorsal vertebra. About twenty physicians diagnosed the case as syphilis, although all tests were negative and the specific treatment was without results. The mass of varicose veins revealed by the laminectomy was not removed, but some improvement followed.

Archives des Maladies du Cœur, etc., Paris

18: 193-272 (April) 1925

*Aortic Defects with Perforation of Septum. R. Lutembacher.—p. 193.
Complicated Heart Disease of Syphilitic Nature. Ducamp et al.—p. 201.
Blood in Typhoid Fever. J. Sabrazès.—p. 204.

Valvular Disease of Aorta with Interventricular Perforation.—Lutembacher describes a case of aortic insufficiency with stenosis, of rheumatic origin, in a young man. The affection was complicated by a prolonged form of ulcerous endocarditis, entailing the perforation of a semilunar valve and of the pars membranacea of the interventricular septum. The rapid fatal issue is explained by the proximity of the bundle of His and automatic centers.

Bulletin de l'Académie de Médecine, Paris

93: 383-413 (April 14) 1925

Subcutaneous Injection of Mineral Water. Larat—p. 397.
Epidemics in Devastated Regions of France. J. Leclercq et al.—p. 403.
Epidemics and Prophylaxis of Helminthiasis. C. Joyeux.—p. 405.
Mineral Waters and Urinary Elimination. P. L. Violle.—p. 409.

93: 415-452 (April 23) 1925

Rarely Used Radioactive Elements. Curie.—p. 417.
Cerebellum Syndrome. J. Babinski.—p. 422.
Historical Review of Study of Heart and Vessels. Pawinski.—p. 424.
Professional Medical Organization in Poland. J. Baczkiewicz.—p. 433.
Protection of Medical Profession in Poland. A. Przyborowski.—p. 442.
Public Health Work in Poland. Polak.—p. 446.

93: 453-473 (April 28) 1925

Health Insurance in France. Balthazard.—p. 459.
*Secretion in Cancer of Breast. P. Delbet and A. Mendaro.—p. 463.
Review of Whooping Cough. Rousseau-Saint-Philippe.—p. 470.

Prognosis in "Secretory Epithelioma" of Breast.—Histologic study of 200 cases of cancer of the breast convinced Delbet and Mendaro of the existence of a special type of secreting cancer of benign character. The secreted substance in the cancer is of albuminoid or mucoid or of mixed nature. The secretion is exocrine, forming pseudocysts, or endocrine, infiltrating the connective tissue (colloid cancer). While the mortality in the first four years after operation was over 50 per cent. in the fifty cases of nonsecreting cancer, no fatal outcome occurred during that time with secreting cancers. Two patients with secreting cancer died during the fifth year after operation; five were in good condition in the sixth year, one over eleven years afterward. Recurrence appeared in two cases after twelve and thirteen years. Hemophile cancer (invading the blood vessels) was followed by death in less than three years, while a hemophile and secreting cancer lasted four and five years. The secreting cancer, especially of mucoid exocrine type, did not affect the glands in the nine cases observed. Hence research on the secretory property of the cancer is of great help in prognosis of the affection. Biopsy may afford an indication for operative treatment.

Bulletins de la Société Médicale des Hôpitaux, Paris

49: 595-634 (April 24) 1925

*Case of Scurvy in Infant. J. Comby.—p. 595.
*Case of Neuritis with Tuberculosis. Lévy-Valensi et al.—p. 598.
*Primary Symmetric Myoselerosis. P. Harvier and M. Bariéty.—p. 599.

*Meninges Syndrome in Spirochetosis. J. Tapie and L. Bounhoure.—p. 604.
*Transfusion in Azotemia with Anemia. C. Flandin and A. Tzanck.—p. 610.
Cytologic Study of Duodenal Juice. M. Chiray and F. Triboulet.—p. 615.
Rheumatism and Tooth Affections. J. Troisier.—p. 629.

New Case of Scurvy in Infant.—Comby reports this case in an infant, over 15 months old, fed with canned milk. Ecchymoses of the gums, purpura, hematuria and a painful pseudoparalysis were present. The patient was treated for rheumatism for a month. Alimentation with fresh milk and orange juice was followed by recovery eight days later. The daily use of two teaspoons of lemon, orange, or grape juice is suggested in children fed canned milk.

New Case of Neuritis with Tuberculosis.—Lévy-Valensi, Feil and Pérono observed a case of neuritis, of the musculocutaneous, in a patient, aged 55, affected with bilateral pulmonary tuberculosis. Probably systematic examination of different pains in tuberculous patients would show more frequently the association of neuritis with the disease.

Case of Primary and Symmetric Myosclerosis.—In Harvier and Bariéty's case the affection was observed in a man, aged 54, and was localized exclusively in the posterior muscles of the lower limbs. The essential features of this muscular affection were its appearance at the age of 44, its exclusive localization in the posterior muscles of the leg and thigh, and the integrity of the nervous system. The disease, which did not progress, does not correspond to any of the myopathies described to date.

Two Cases of Spirochetosis with Meningeal Phenomena.—Tapie and Bounhoure treated two patients, aged 16 and 22, with a meningeal syndrome caused by spirochetes. The syndrome was preceded in one patient by a slight jaundice with urobilinuria. The urine examination revealed the presence of spirochetes in both. Lumbar puncture resulted in immediate improvement.

Action of Blood Transfusion on Azotemia with Anemia.—Systematic blood counts in patients with nephritis convinced Flandin and Tzanck that anemia is an important sign in an azotemia condition. The anemia may occur spontaneously or may follow a severe diet and repeated bloodlettings. In one patient with hypertension and asthma-like crises, and in two with chronic nephritis, from two to six blood transfusions were used with good results. The transfusions were often preceded by a withdrawal of 100 or 150 c.c. of blood. The blood injected (from 200 to 300 c.c.) was treated with citrate or arsphenamin; or pure nonstabilized blood (by an apparatus invented by the authors) was employed. The treatment was ineffective in two cases of acute nephritis and in one of nephritic pericarditis. Evidently the improvement in anemia exerts secondarily a favorable action on the azotemia.

Gynécologie et Obstétrique, Paris

11: 241-320 (April) 1925

*Induced Abortion in Tuberculosis. Mönckeberg and Vergara.—p. 241.
Action of Beta and Gamma Rays on Guinea-Pigs. de Jong.—p. 250.
Histology and Physiology of the Round Ligament. H. Keiffer.—p. 265.
Treatment of Sterility in Woman. E. Douay.—p. 283.

Indications for Abortion in Tuberculosis.—In 40,000 pregnancies, abortion was induced by Mönckeberg and Vergara in only seven tuberculous women, notwithstanding the prevalence of the disease. They summarize the conditions justifying the intervention: pregnancy not over three months; menace of generalization of the infection; negative or slightly positive intracutaneous and Besredka reactions, and a history of numerous childbirths, favoring aggravation of the tuberculosis.

Journal de Radiologie et d'Electrologie, Paris

9: 161-208 (April) 1925

Tubes with Different Foci in Roentgenography. J. Belot.—p. 161.
*Case of Legg's Disease. M. Meyer and D. Sichel.—p. 171.
Injury of Radius in Child. F. Lepennetier.—p. 177.
*Apparatus for Orthodiagraphy. J. M. Reviglio.—p. 179.
Apparatus with 500,000 Volts Tension. J. Belot.—p. 181.

Case of Osteochondritis Deformans Juvenilis.—The affection observed for three years in a boy, aged 3, was bilateral. A rapid recalcification of the primarily affected left hip, with almost complete restoration, occurred during rest in bed. As soon as the child started to exercise, a decalcification process developed in the other hip, entailing a considerable flatness of the head of the femur. It seems, Meyer and Sichel say, that more depends on the horizontal position than on immobilization of the affected joint in a cast. The etiology of the case could not be determined.

Modified Apparatus for Orthodiagraphy.—Reviglio describes his apparatus, which he affirms is simple and convenient, allowing alternation from roentgenography to orthodiagraphy in several seconds or minutes.

Paris Médical

55: 373-388 (April 25) 1925

*Pylorus Insufficiency in Cancer of Stomach. L. Timbal.—p. 373.
*Roentgenotherapy in Anterior Poliomyelitis. H. Bordier.—p. 378.
*Value of Spirescope in Treatment of Pleurisy. J. Pescher.—p. 381.
Hernia and Occupational Accidents. E. Rey.—p. 384.

Pylorus insufficiency from Cancer of Stomach.—Referring to his fourteen cases, Timbal recalls that an insufficient closing of the pylorus may result from organic or functional lesions. In only two cases the insufficiency was provoked by linitis plastica, transforming the pyloric sphincter into a rigid ring unable to contract. In twelve cases with tumor of the pylorus or of the juxtapyloric region, the insufficiency resulted from lesions of vagus nerve terminations, paralyzing the sphincter. Hence the stomach evacuation occurred in from several minutes to sixty or ninety minutes. No diarrhea was noted with the insufficiency, since it was compensated by a normal intestinal functioning. In nonoperative cases the use of hydrochloric acid or of artificial gastric juice may sometimes induce reflex closing of the pyloric opening and consequently regulate the evacuation of the stomach.

Irradiation of Spinal Cord in Anterior Poliomyelitis.—From roentgenotherapy combined with diathermy Bordier obtained a notable improvement or even recovery in cases of recent anterior poliomyelitis. The region between the eleventh dorsal and the first lumbar vertebrae was exposed in paralysis of the lower limbs. In paralysis of the upper limbs the region between the third and the sixth cervical vertebrae was irradiated. His experiments on animals, with Solomon's iontometer, showed that a larger proportion of the rays reach the ventral horns of the spinal cord when directed obliquely, not vertically. Irradiations, each lasting ten minutes, were made with an aluminum filter (6 mm.), the anticathode placed at 25 cm. from the spinal canal in children aged 3 or 4 years. Considering that only a fourth of the rays penetrate the spinal cord, a dose of 234 R. units was used at each sitting, given in a series of three exposures. Thus the spinal cord received 165 R. units, the skin a total of 3.5 H. units.

Spiroscope in Treatment of Pleurisy.—Pescher describes a case of accidental collapse of the lung, in which a spiroscope was successfully used. In exudative pleurisies a gradual distension of the compressed lung by the spiroscope forces the resorption of the pleural fluid.

55: 389-424 (May 2) 1925

Diseases of Deranged Metabolism in 1925. Rathery and Kourilsky.—p. 389.
*The Lesions in Marasmus. G. Mouriquand and M. Bernheim.—p. 405.
Insulin and Pathogenesis of Diabetes. Mauriac and Aubertin.—p. 412.

Lesions in Experimental Marasmus.—Mouriquand and Bernheim kept 317 guinea-pigs on a vitamin C deficient diet. After the appearance of definite signs of scurvy, the animals were given food rich in antiscurvy substances. All the surviving full-grown animals recovered, but 65 per cent. of the young developed, notwithstanding the disappearance of the scurvy, signs of grave malnutrition and progressive fatal cachexia. The liver cells were found unchanged but their functioning seemed to have been suspended. The inactivity of the liver may have been due to a deficient intestinal absorption from lack of digestive ferments (Marfan) or to changes in the intestinal cells. The experimental marasmus would thus be explained by insufficient assimilation and not by a deficient food supply. It is evident that in certain clinical conditions avitaminosis may induce phenomena of the marasmus type.

Presse Médicale, Paris

33: 553-568 (April 29) 1925

Prognosis of Secreting Mammary Cancers. Delbet and Mendaro.—p. 553. See abstract, p. 1964.
*Action of Atropin on Encephalitis Sequelae. A. Radovici.—p. 555.
*Nerve Grafting. L. Vargas Salcado.—p. 558.

Action of Atropin on Motor Disturbances from Encephalitis.—Since the parasympathetic nerves increase, while the sympathetic inhibit the tension in voluntary muscles, Radovici tried atropin in motor disturbances from encephalitis. The treatment induced an improvement in all his twenty cases of postencephalitic parkinsonism, with rigidity, tremor, torsion spasm, retropulsion, or akinesia. Complete recovery cannot be expected. The atropin was administered subcutaneously, intravenously or by mouth. A daily dose of 2 mg. was never exceeded. A solution of 0.01 gm. in 10 c.c. of water was used in injections. From three to six teaspoonfuls of a solution of 0.01 gm. in 150 gm. of water were given by mouth. No complications were observed beyond a transient tachycardia. Improvement appeared in about one hour, sometimes in half an hour after administration of the atropin. The effect of the drug gradually increased, and was still further augmented by the second injection the next day.

Grafting of Nerve Preserved in Alcohol.—Vargas Salcado reports five cases, out of 100 observed, by himself and other surgeons in Chile, with affections from severed median, sciatic or crural nerves, or roots of the brachial plexus, in which grafts of calf's nerves were used. In this group of cases, the operation resulted in recovery of function and sensibility in the injured limb. Grafts were made with the sciatic nerve of a calf preserved in absolute alcohol for less than four months. To bridge a gap in a large nerve, a twisted cable of two or three nerves may be used.

33: 585-608 (May 6) 1925

Inaugural Lecture of Anatomy Course. G. Roussy.—p. 585.
*Apparatus for Fracture of Fingers. E. Vallet.—p. 590.
*Administration of Hexamethylenamin. H. Blanc.—p. 591.
*Estimation of Body Surface. L. Binet.—p. 593.

Apparatus for Treatment of Fractures of Fingers.—Vallet's apparatus allows reduction of the fragments; continuous traction; roentgen-ray examination during the whole treatment; mobilization of the joints; and dressing of the wounds in compound fractures.

Use of Hexamethylenamin in Diseases of Urinary Tract.—Referring to the work of others and to personal clinical and experimental observations, Blanc concludes that intravenous injection of hexamethylenamin is never indispensable, seldom useful, and sometimes dangerous. The antiseptic effect of the drug is not more rapid, intensive or durable by intravenous injection. It is best given by mouth. Association of the drug with benzoic acid enhances its action. Hexamethylenamin benzoate in a concentrated diuretic solution should preferably be used in cases of hypertension in which large amounts of fluid are contraindicated; otherwise, he ascribes the diuresis induced chiefly to the fluid given with the hexamethylenamin.

Determination of Surface Area of Human Body.—Binet reviews the different formulas for measurement of the skin surface, important in the estimation of basal metabolism.

Pediatria, Naples

33: 393-448 (April 15) 1925

Hygiene of Children. L. Spolverini.—p. 393.
*Typhoid in Infants. M. Mallardi.—p. 413.
Pediatric Cases. M. B. Sindoni and F. Guccione.—p. 423.
*Gigantocytes and Sickle Cells. V. Castana.—p. 431.

Typhoid in Infants.—Mallardi finds the typhoid-paratyphoid infection as frequent cause of death in children less than 2 years of age in the province of Bari.

Gigantocytes and Sickle Cells.—Castana observed a case of anemia and icterus with gigantocytes of semilunar form in a white child. He concludes from this that sickle cell anemia is not a well defined clinical entity.

Policlinico, Rome

32: 515-549 (April 13) 1925

Botelho's Reaction. M. Micheli and G. Canelli.—p. 515.
Pulmonary Lithiasis. C. Verdina.—p. 519.
Case of Kala-Azar. P. Timpano.—p. 526.

32: 551-585 (April 20) 1925

*Localization of Pain in Affections of Liver. G. Sabatini.—p. 551.
*Lack of Vitamins in Alleged Vitaminic Food. G. Lorenzini.—p. 557.
"Dosage of Pancreatic Ferments." E. Pizzoglio.—p. 559.

Localization of Pain in Affections of Liver.—Sabatini reviews the tender points in diseases of the liver and adds another: the posterior hepatic point which is very constant in cholelithiasis and congestion of the liver. The tender area has at the utmost only a diameter of 1.5 cm. It is localized in the eleventh or tenth intercostal space between the right paravertebral and scapular line.

Lack of Vitamins in Alleged Vitamin Rich Food.—Lorenzini points out that many aliments considered rich in vitamins, such as milk, lemons, and grains of cereals, may not contain any appreciable amount of these substances.

32: 587-621 (April 27) 1925

Ameba Cysts and Pseudocysts. A. Scarpellini.—p. 587.
Ringworm in First Days of Life. G. Scatena.—p. 591.
*Emotional Vitiligo. W. Pierangeli.—p. 592.
*Caronia's Scarlet Fever Vaccine in an Epidemic. L. Pichezzi.—p. 594.
*Idem in Another Epidemic. T. Lazzarini.—p. 595.
*Treatment of Purulent Gonitis. R. Mosti.—p. 596.

Emotional Vitiligo.—Pierangeli reports a case of almost symmetrical vitiligo which started within ten days after the patient had been frightened by a shooting on the street. She was 16 years of age, and otherwise healthy.

Caronia's Scarlet Fever Vaccine in an Epidemic.—Pichezzi reports the results obtained with Caronia's vaccine in an epidemic of scarlet fever. Ten years before all the children in that community had been infected, and the mortality was 30 per cent. In the new epidemic, he vaccinated 150 children and used 100 as controls, all of them below 10 years of age. All the 100 controls contracted scarlet fever (11 deaths and many complications). Of the 150 vaccinated children, 5 were infected within a month, but had an abortive form; 9 became sick two months after the vaccination (5 with complications). A third group of 20 children contracted the disease three months after having been vaccinated. The type was as grave as in the controls; 1 child died and 6 had complications. He regards the vaccination as valuable.

Prevention of Scarlet Fever.—Lazzarini used Caronia's vaccine in fifty children who had been in contact with scarlet fever patients. None of them contracted the disease.

Treatment of Purulent Gonitis.—Mosti punctures the joint and after removal of the pus injects 10 c.c. of ether. The capsule becomes distended and the patient feels severe pain, which disappears suddenly. After a few seconds, he opens the trocar and the fluid and gaseous ether escape. Then he repeats the procedure and immobilizes the knee. The temperature drops usually the same evening. The treatment is repeated in the following two to four days and after ten days of rest, movements may begin. He reports three complete recoveries.

Rivista di Clinica Pediatrica, Florence

23: 217-288 (April) 1925

Basal Metabolism in Pediatrics. C. Cisi.—p. 217.
*Action of Epinephrin in Lymphatic Children. D. Bottacin.—p. 228.
*Cardiac Dulness in Toxic Gastro-Enteritis. A. Gismondi.—p. 248.

Action of Epinephrin in Lymphatic Children.—Bottacin treated four children of a lymphatic constitution by daily injections for a month of 0.5 c.c. of a 0.1 per cent. solution of epinephrin. The lymph glands and spleen did not change, but the general condition improved. There were only transitory changes in the differential blood count.

Cardiac Dulness in Toxic Gastro-Enteritis.—Gismondi constantly observed a diminution or disappearance of the area of cardiac dulness during the toxic stage of gastro-enteritis in infants. It is due chiefly to a neurotic emphysema of the lungs. A real diminution of the size of the heart may also occur.

Archiv für Gynäkologie, Berlin

124: 1-304 (April 18) 1925

*Alternation in Ovarian Function. A. Kühl.—p. 1.
Molecular Biology and Pathology of Pregnancy. L. Seitz.—p. 27.
Heterotopic Uterine Mucosa and Decidua. J. Wieloch.—p. 53.
Coincidence of Uterus Tumors. O. Frankl.—p. 67.
Biology of Human Vagina. O. Gragert.—p. 77.

*Operative and Radiotherapeutic Castration. B. Aschner.—p. 113.
Interferometric Test of Cancer Ferments. W. Duwe.—p. 161.
Endometrial Adenomyosis. I. Kitai.—p. 178.
Technic for Blood Transfusion. G. H. Schneider.—p. 213.
Necrosis of Kidney Cortex and of the Spleen in Eclampsia. P. Geipel. —p. 231.
*Condition of Blood in Postpartum Hemorrhage. L. Kraul.—p. 241.
Ovariectomy During Pregnancy. S. Kusuda.—p. 269.
Fetal and Maternal Correlation of Organs. Lüttge and v. Mertz.—p. 279.
"Endocrine Epilepsy." M. G. Sserdjukoff.—p. 284.

Alternation in Ovarian Function.—From histologic examination Rühl concludes that the first ovulation and formation of corpus luteum after a pregnancy takes place in the ovary which did not contain the corpus luteum of pregnancy. In normal conditions, ovulation alternates between the ovaries, and occurs in each ovary every eighth week. In case of the removal of one ovary the remaining ovary becomes hypertrophied for compensation (ovulation every fourth week).

Late Results After Hysterectomy and Operative and Radiotherapeutic Castration.—Aschner's observations in 104 cases show that total or partial excision of the uterus, with or without ovariectomy, and roentgen and radium castration before the menopause, may cause slight or grave and permanent injuries, often shortening life. These phenomena of autointoxication result not only from cessation of the internal secretion of the ovaries, but from suppression of the menstruation. He denounces operation or irradiation earlier than seven to twelve years after the usually accepted time. The manifestations of a retention toxicosis include cardiovascular disturbances, convulsive states, mental disturbances, and gallstones. In cases of myoma and benign uterine hemorrhages, normal menstruation was usually induced by general treatment, without hysterectomy or radiotherapeutic castration; he believes that in such cases castration by irradiation will soon be contraindicated.

Condition of Blood as Factor in Postpartum Hemorrhage.—Kraul concludes that there is no connection between postpartum hemorrhage and the time of coagulation. The number of thrombocytes has no effect. The thrombin is not decreased in postpartum hemorrhage. The calcium and potassium content and the hydrogen ion concentration continue normal. In cases of postpartum hemorrhage the retroplacental serum affects the surviving uterus of the guinea-pig less than that in other cases. A connection seems to exist between the fibrinogen level in blood and delivery, and the loss of blood after delivery, which is also influenced by other factors. The noncoagulation of the menstrual blood depends on its apparent lack of fibrinogen.

Deutsche medizinische Wochenschrift, Berlin

51: 681-722 (April 24) 1925

*Statistics on Left and Right Handedness. A. Bethe.—p. 681.
*Dry and Infectious Arthritis. F. Munk and A. Muncke.—p. 686.
*Change of Muscles in Disease. H. Perger.—p. 690.
*Sedimentation Test in Scarlet Fever. H. Rhodin.—p. 691.
Suicides in Hamburg. Sieveking et al.—p. 694. See Berlin letter.—p. 834.
Basophilic Stippling. A. Hauer.—p. 698.
Flat-Foot Appliances. H. Jordan.—p. 702.
New Wells in Bad Elster. H. Bach.—p. 703.
Proposed Revision of Penal Code. Riss.—p. 704. Conc'n.
*Leprosy Colony in Crete. C. Seyfarth.—p. 705. Conc'n.
"Prediction of Sex." R. Fetscher.—p. 707.
Treatment of Acute Gonorrhea. I. Saudek.—p. 707.
The Bathing Places in the Occupied Territory. J. Schwalbe.—p. 707.
Survey on Edema. K. Beckmann.—p. 715.

Statistics on Left and Right Handedness.—Bethe concludes that the statistics made on adults give only the percentage of persons who are unable to overcome left handedness. Corresponding statistics on exclusive right handedness are lacking, but the results in amputated people show that such subjects are also rare. He examined small children and found that a marked preference of one hand between 2-4 years of age is evident in an equal percentage (16.7 per cent.) for the left as for the right hand. The localization of the center for speech in the left hemisphere seems to be more frequently congenital. Yet its relation to the preference of the right hand is not as clear as it seemed to be.

Dry and Infectious Arthritis.—Munk and Muncke describe a fine shadow corresponding to the capsule of the joint in roentgenograms from the genuine dry arthritis of endocrine origin. It is sharply outlined. Later on the bones become eroded. The chronic exudative arthritis causes a diffuse shadow around the joint which is due to infiltration. Various tests show an increased lability of the serum colloids in the latter—probably infectious—group. They have a favorable opinion of the shock treatment, no matter what preparation is used, but emphasize the necessity for passive and active movements. It is important that the patient ceases to be afraid to move. Ovarian extracts may be recommended in climacteric arthritis and those cases where it began in pregnancy.

Change of Muscles in Disease.—Perger found a decreased ability to synthetize glucose-diphosphoric acid in vitro when using muscles from rabbits with experimental ileus.

Sedimentation Test in Scarlet Fever.—Rhodin describes the irregular changes of the sedimentation speed of erythrocytes and of the percentage of serum proteins in scarlet fever. They resemble the phenomena occurring after injection of foreign serum.

Leper Colony in Crete.—Seyfarth describes the island colony of 200 patients suffering from lepra. They are isolated, but not treated at all, although this could be done at a comparatively small expense. Four wives followed their sick husbands into the colony, but remained healthy. One of them —in order to be admitted—rubbed the pus from an ulcerated leprosy nodule into her scarified arm, and has worked since as washerwoman in the colony. She married after her husband's death another patient, and is after thirty-five years of continuous contact apparently healthy, except for a positive Wassermann reaction (case reported by Photinos). Thirteen children from leprous patients seem to be healthy. He makes suggestions on how to save the patients from despair and how to combat leprosy in Greece.

51: 723-764 (May 1) 1925

*Rice Gruel in Treatment of Acute Enteritis. G. Bessau.—p. 723.
*Action of Hormones and Mineral Waters. H. Kopf.—p. 725.
Foci of Disease and Thermal Bath Treatment. Grunow.—p. 727. Begun p. 700.
Roentgen Diagnosis of Diaphragmatic Hernia. Huber.—p. 729.
Disturbances in Gait After Fracture of Neck of Femur. Schanz.—p. 730.
*Labor in Extirpated Uterus. W. Liepmann.—p. 732.
Swine Erysipelas in Man. Esau.—p. 734.
*Action of Papule Fluid on Tuberculin. Brieger and Landau.—p. 735.
The Blood After Injections of Milk. Spektorovskaja.—p. 736.
Tumors as Obstacle to Childbirth. G. Siefart.—p. 738.
Intestinal Bacteriology and Pathology in Infants. A. Adam.—p. 739.
Spinal Osteo-Arthropathy in Tabes. A. D. Prokin.—p. 740.
Tub Baths in Cardiovascular Disease. R. Lurz.—p. 741.
Technic of Pneumothorax. Zobel.—p. 742.
Progress in Surgery. F. Colmers.—p. 745.
Health Statistics of Latvia. E. Roesle.—p. 748.
Changes of Therapy and Pathology. Diepgen.—p. 750. Cont'n.
The Edema Problem. K. Beckman.—p. 759. Conc'n.

Thick Rice Gruel in Treatment of Acute Enteritis.—Bessau gives in acute nutritional disturbances in infants tea twice and then a gruel obtained by cooking rice down to a concentration of 10 per cent. (containing almost 40 calories per hundred grams). On the second day, 3 per cent. sugar may be added and on the third, 5 per cent. After this, addition of milk or other proteins is necessary.

Action of Hormones and Mineral Waters.—Kopf found a synergism between a certain mineral water and thyroid extract in the regressive phase of metamorphosis of tadpoles, but an antagonism in the action on the progressive phase.

Labor in Extirpated Uterus.—Liepmann points to the value of the material of pregnant uteri obtained in sterilization of tuberculous women. The extirpated uterus usually contracts and expels the contents. He explains certain fossil remains as examples of postmortal labor of the ichthyosaurus.

Action of Papule Fluid on Tuberculin.—Brieger and Landau produced blisters with intracutaneous injections of tuberculin. The serofibrinous content of these blisters mitigated the action of the tuberculin with which it was mixed. The serum of their patient did not contain any "anticutins."

Jahrbuch für Kinderheilkunde, Berlin

108: 157-266 (April) 1925

*Nutrition Disturbances in Infants. E. Schiff and W. Bayer.—p. 157.
Action of Growth Vitamins on Growth. K. Scheer.—p. 171.

*Water Metabolism in Obese Children. R. Freise.—p. 180.
*Serochemical Investigations on Fasting Animals. M. Nakamura.—p. 195.
*Epinephrin in Diphtheria. J. Munk.—p. 218.
Eosinophils in Tissues in Scarlet Fever. M. v. Ambrus.—p. 233.
Bismuth Treatment in Congenital Syphilis. A. Tüdös.—p. 236.

Dehydration Pyuria, Cylindruria and Albuminuria in Infants.—Schiff and Bayer found that a mild albuminuria, with leukocytes, casts and erythrocytes in the sediment, results from great reduction of the water intake. Leukocyte elimination may dominate the sediment picture from the start, or casts and erythrocytes may also appear temporarily. By experimental dehydration a pyuria may be induced corresponding to the pyuria met with in dehydration conditions of different intensity and etiology, called dehydration pyuria.

Water Metabolism in Obese Children.—Freise's treatment for obesity in children consists in limiting the fats as much as possible, reducing the carbohydrates, and supplying abundant proteins, without regard to the water intake. To appease the hunger, large quantities of vegetables (high water content) are given. The end-results are uniformly good; immediate loss of weight does not follow. He finds that withholding fluids is not essential in the reduction of obesity. Considerable weight may be lost rapidly by limiting the water intake, but such losses are easily compensated. It would appear that less depends on the water intake than on the simultaneous intake of common salt.

Serochemical Investigations on Fasting Animals.—Nakamura's experiments showed an increase of the antitryptic power of the blood serum in the rabbits at the end of the fast, in most cases. At the beginning a slight increase of the noncoagulable nitrogen was noted; toward the end, particularly in the preagonal stage, a definite increase was observed. The titer of the various antibodies was somewhat lower and the disappearance of some of them faster than in the controls. In both young and grown rabbits foreign proteins passed through the intestinal wall more easily after the fasting period.

Epinephrin in Diphtheria.—Munk says that arrest of the heart action in diphtheria is due to a paralysis of the cardiovascular system. The administration of epinephrin gives excellent results because of its action in increasing the blood pressure.

Klinische Wochenschrift, Berlin

4: 793-856 (April 23) 1925

Sepsis and Toxemia. A. H. Oeller.—p. 793.
Streptococcus Infection. E. Emmerich.—p. 798.
*Viscosity and Colloidal State. E. A. Hafner.—p. 802.
*Lactic Acid Content of Blood. B. Mendel et al.—p. 804.
*Etiology of Essential Hypertension. E. Kylin.—p. 806.
*Action of Nerves, Ions and Poison. S. G. Zondek.—p. 809.
*Lipoids and Vegetative System. K. Dresel and R. Sternheimer.—p. 816.
Sensitivity of Cornea and Conjunctiva. H. Stein.—p. 819.
*Hoarding of Vitamins. H. Aron and R. Gralka.—p. 820.
*Blood Pressure During Constriction of an Extremity. O. Dittrich.—p. 821.
*Genesis of Bronchial Asthma. Wiechmann and Paal.—p. 823.
*Specific Diuretics. G. M. Curtis.—p. 824.
*Interfereometry in Clinical Diagnosis. W. Maurer and H. W. Bansi.—p. 825.
Tryptic Potency of Some Pancreas Preparations. B. Kugelmann.—p. 827.
*Estimation of Size of Erythrocytes. F. E. Löwy.—p. 828.
*Genesis of Hypertension. A. Loewy.—p. 829.
"Perspiratio Insensibilis." A. Loewy.—p. 829.
Reply. A. Schwenkenbecher.—p. 830.
*Capillaries in Hemorrhagic Diathesis. v. Bernuth.—p. 830.
*Action of Poisons on Distribution of Electrolytes in the Cell. S. G. Zondek and A. Benatt.—p. 830.
Aortic Stenosis by Kyphoscoliosis. G. Klawansky.—p. 831.
Bronchiectasis. K. Kissling.—p. 832.
Epidemics in Russia. S. Dubrowinsky.—p. 836.
Superficial and Deep Sensitiveness of Skin. E. Schilf.—p. 843.
*Dosage of Thyroid in Myxedematous Children. E. Nobel.—p. 855.

Vicosity and Colloidal State.—Hafner shows that the colloidal state of euglobulin depends largely on the electrolytes and also nonelectrolytes of the medium. Changes in the concentration of these substances in the blood may have a marked influence on it.

Lactic Acid Content of Blood.—Mendel, Engel and Goldscheider found that insulin does not change the lactic acid level in the blood in health or in diabetes. They believe that it enhances the glucose intake by the cells—perhaps by producing an alkalosis.

Etiology of Essential Hypertension.—Kylin discusses the genesis of the condition. Its familial incidence, the lowered sexual activity and atrophy of the testes, large variations of blood pressure, changes of metabolism of organic and inorganic substances, the vagotonic type of the epinephrin test (decrease or slow increase in pressure), neurasthenic disturbances, and the frequent coincidence with asthma point to a disease of the vasomotor part of the vegetative system. It may affect any one of its components: the nerves, the hormones, or the constellation of electrolytes. The treatment consists in rest, sedatives, protein injections and calcium. The latter may be combined with atropin or theobromin derivates. The lactovegetable diet may act as a calcium treatment. Sodium chlorid should be restricted.

Action of Nerves, Ions and Poisons.—Zondek reviews the findings which support his theory on the identity of the action of the nerves and of changes of the electrolytes. He adds experiments which enlarge the scope of the theory to the action of poisons. The increased peristalsis after histamin can be suppressed by calcium, and the calcium paralysis of the intestine is counteracted by histamin. The action of histamin can be suppressed by any stimulation of the sympathetic (epinephrin); the latter action is identical with an increase in calcium. Digitalis and calcium are synergists on the heart. So are their antagonists: quinin, arsenic, and potassium. Digitalis does not act without the presence of calcium. The one feature which is common to the action of nerves, electrolytes, and poisons is the change they produce on the colloidal contact surfaces in the cells. From this point distad the action is identical. The addition of electrolytes to the outside fluid changes the equilibrium between colloidally bound, dissolved and ionized electrolytes in the cell. Cellular poisons act on the colloids and a change in the equilibrium of electrolytes follows. The action of the nerves begins at the interposed neuromuscular substance from which a change in the intracellular constellation of electrolytes is induced, probably indirectly by a change of the colloids. Numerous experimental findings corroborate the theory.

Lipoids and Vegetative System.—Dresel and Sternheimer found that potassium and cholin augment, calcium and epinephrin lower the surface tension of a mixture of lecithin and cholesterol in Ringer's solution. Calcium inverted the action of cholin, potassium that of epinephrin. Perfusion experiments showed a parasympathetic reaction produced by lecithin, a sympathetic by cholesterol. They believe that the lipoids are the substratum on which the nerves, ions, and vegetative poisons act.

Hoarding of Vitamins.—Aron and Gralka fed rats for a while on a diet containing vitamin A under exclusion of vitamin B. When the latter was added and A omitted, the animals became apparently normal for a while. They obtained no normal growth if vitamin B was used first and vitamin A afterward. This shows that the organism is able to store reserves of vitamin A, but not of B.

Blood Pressure During Constriction of an Extremity.—Dittrich finds that the increased blood pressure after constriction of an extremity is due to the irritation of the skin. Nephritis patients gave a stronger response than healthy subjects.

Genesis of Bronchial Asthma.—Wiechmann and Paal found an alkaline shifting of the urine after injections of cholin. Some of the asthma patients reacted with an attack. They believe that treatment of asthma with calcium chlorid is mainly a treatment by acids. Yet the alkalosis is not always present. Asthma is a more complicated problem.

Specific Diuretics.—Curtis observed after injection of a theobromin derivate in rabbits a rapid increase in the blood chlorids. This was followed by the diuresis. In the few cases where no diuresis was produced, no increase in blood chlorids was noted. Intraperitoneal injection of 100 c.c. of a 6.7 per cent. solution of cane sugar reduced the diuresis to less than a third because the chlorids were diverted into this fluid. He concludes that the specific diuretics act primarily on the tissues, forcing chlorids into the blood stream. An action on the kidneys is only secondary.

Interfereometry in Clinical Diagnosis.—Maurer and Bansi had encouraging results with the interfereometric reading of Abderhalden's reaction in cancer and ulcer of the stomach and in tuberculosis.

Estimation of Size of Erythrocytes.—Löwy stains a blood slide from a healthy subject and smears the examined blood on it. The size of the corpuscles can be easily compared with a dry objective.

Genesis of Hypertension.—Loewy observed eight patients with hypertension due to high altitudes. He is one of them. Inhalation of oxygen brings the blood pressure rapidly down to the previous level. He explains the phenomenon by an irritation of the vasomotor center by a local deficiency of oxygen. This may be a cause of hypertension even at low altitudes. His blood pressure returns to the level of previous years after inhalation of oxygen.

Capillaries in Hemorrhagic Diathesis.—Bernuth observed no contraction of an opened capillary vessel in a patient with atypical hemophilia. In another patient with thrombopenic purpura the contraction of the vessel and its disappearance in the observed field occurred just as in healthy subjects.

Action of Poisons on Distribution of Electrolytes in the Cell.—Zondek and Benatt found a slight increase in potassium in the Ringer fluid in which they kept frog's muscles after the addition of guanidin. Paradoxically, the potassium concentration or at least one of its compounds in the muscles also became higher. They conclude that the main point is the fact that guanidin produces some change.

Dosage of Thyroid in Myxedematous Children.—Nobel devised a comparatively simple dosage of thyroidin preparations in myxedematous children. He tests the preparation on guinea-pigs weighing from 200-250 gms. If such animals die after a total dose of 2 gm. (the fractioning of the doses does not make much difference), he gives daily 1 mg. of it per hundred centimeters of the square of the sitting height. For instance, the square for the sitting height of 30 cm. is 900 sq. cm. Consequently 9 mg. are advisable. With a sitting height of 80 cm., the daily dose of a preparation of this strength is 64 mg.

4: 857-904 (April 30) 1925

*Biochemistry. F. G. Hopkins.—p. 857. Comment. Ackermann.—p. 862.
*Albuminuria and Lipoid Nephrosis. F. Munk et al.—p. 863.
*Cutaneous Infection with Herpes Virus. G. Rose.—p. 866.
*Reactivity of the Skin and Ovary Function. Heilig and Hoff.—p. 868.
*Spinal Subarachnoidal Blockage. K. Eskuchen.—p. 870.
*Mediastino-Interlobar Pleurisy. F. Fleischner.—p. 875.
Determination of Free Acid by "Titration of the Indicator." H. E. Büttner.—p. 877.
*Cause of Exophthalmos. Unverricht.—p. 878.
Gangrene After Injury of Sciatic Nerve. W. Frei.—p. 879.
*Subcutaneous Injection of Chaulmoogra Oil. A. Keppler.—p. 879.
*Hemophilia. R. Feissly.—p. 879.
*Serologic Water Reaction. Lüttge et al.—p. 880.
Treatment of Tuberculosis of Joints. G. Axhausen.—p. 881.
Epidemics in Russia. S. Dubrowinsky.—p. 887. Conc'n.
Technic of Percussion. T. Hausmann.—p. 901.

Biochemistry.—Hopkins deals with the history, present significance and outlook of biochemistry.

Albuminuria and Lipoid Nephrosis.—Munk, Benatt and Flockenhaus perfused surviving kidneys of dogs with a diluted serum which had been subjected to the passage of an electric current. The procedure was found by others to shift the hydrophil colloids toward the hydrophobic phase. They observed an increased albuminuria in the surviving kidney as well as in living dogs, the urine in the latter case containing anisotropic lipoids. The same phenomenon occurred after a pure Ringer solution had been treated with the current, although its p_H changed very little. They believe that hypercholesterolemia in nephrosis is due to the same factor which injures the epithelia of the kidneys. The latter cannot assimilate cholesterol as well as in health. The albuminuria in lipoid nephrosis is less a sign of an injury of the kidneys than a function which eliminates the denatured (hydrophobic) proteins.

Cutaneous Infection with Herpes Virus.—Rose produced myelitis in guinea-pigs by inoculation of herpes virus in the paws.

Reactivity of the Skin and Ovary Function.—Heilig and Hoff observed a low premenstrual and negative menstrual reaction to intracutaneous injection of epinephrin and increased reaction to morphin. Another sign of vagotonia—the hemoclastic crisis after injections of milk—is quite pronounced in the first two days of menstruation. During the second half year of the menopause the reactions are the reverse.

Spinal Subarachnoidal Blockage.—Eskuchen deals with the diagnosis of a subarachnoidal block with especial regard to injections of iodized oil and the precautions to be taken in the interpretation of the results.

Mediastino-Interlobar Pleurisy.—Fleischner made a roentgenologic study of this condition which he found frequently in patients with tuberculosis of the mediastinal lymph nodes. The point of predilection is between the right lower and the middle lobe.

Cause of Exophthalmos.—Unverricht found in five patients no exophthalmos after faradization of the cervical sympathetic. Compression of the veins of the neck produced it. He agrees with those who attribute the symptom to a retrobulbar edema.

Subcutaneous Injection of Chaulmoogra.—Keppler recommends dissolving chaulmoogra oil in an equal part of arachis oil. The injection is not painful, and the solution remains clear.

Hemophilia.—Feissly's experiments indicate that the prolonged coagulation time in hemophilia is due to a prolongation of the time of the change of the proserozyme to serozyme (thrombogen). This may be due to the presence of a stabilizator of the proferment. The most rational treatment devised so far is the transfusion of normal blood, which supplies the normal serozyme.

Serologic Water Reaction.—Lüttge, Mertz and Berger coagulate the mixture of diluted serum and an extract of the organ and determine the amino-acids in the filtrate.

Medizinische Klinik, Berlin

21: 609-648 (April 24) 1925

Vaccine Treatment in Gynecology. R. Hofstätter.—p. 609.
*The Diencephalon and Its Diseases. Müller and Greving.—p. 611. Conc'n.
*Immunity in Transplantable Tumors. Uhlenhuth and Seiffert.—p. 616. Conc'n.
*Predisposition Versus Exposure in Familial Tuberculosis. Reiche et al.—p. 619. Cont'n.
*Atypical Gout. F. Turan.—p. 624.
Bismuth Salts as Diuretics. W. Robitschek.—p. 626.
Autohemotherapy in Fracture of Metatarsus. W. Lewy.—p. 627.
Treatment of Local Arsphenamin Injury. F. Burkart.—p. 627.
*Fibrinogen and Liver Diseases. O. Weltmann and K. Neumayer.—p. 629.
Obstetric Breviary. F. Eberhart.—p. 631. Cont'n.
Cancer and Its Treatment. O. Strauss.—p. 633. Conc'n.
Vitamins in Pediatrics. W. Schmitt.—p. 635. Conc'n.
So-Called Biochemical Treatment. J. Pohl.—p. 647.

Diencephalon and Its Diseases.—Müller and Greving conclude their review on the anatomy, physiology and pathology of the interbrain.

Immunity in Transplantable Tumors.—Uhlenhuth and Seiffert conclude that the immunity to transplantable tumors is not of athreptic nature. It is an active reaction characterized especially by an accumulation of histocytes.

Predisposition Versus Exposure in Familial Tuberculosis.—In continuation of the symposium, Reiche sees no indications of a constitutional predisposition. Loeschcke finds that usually only those descendants of the tuberculous are affected who present a phthisical habitus. He recommends further investigations in this line. Brünecke believes that an inferiority of a single or several organs is frequent and inherited. Because the tubercle bacillus is practically ubiquitous, we get the wrong impression that it is the tuberculosis which is the familial disease instead of the nonspecific inferiority of the organs.

Atypical Gout.—Turan recommends palpation of the skin in rheumatoid diseases. He found early sandlike structures or small plates which may be destroyed by pressure. He regards them as constitutional stigmata of the adiposo-neuro-arthritic type.

Fibrinogen and Liver Diseases.—Weltmann and Neumayer confirm the lowered concentration of fibrinogen in diffuse affections of the liver. Increased fibrinogen figures indicate a local inflammatory (cholelithiasis) or neoplastic process.

21: 649-684 (May 1) 1925

*Vegetative Neurotic Attacks in Children. A. Reuss.—p. 649.
Tuberculosis of the Ear. G. Charousek.—p. 654.
Familial Tuberculosis. K. E. Ranke et al.—p. 656. Cont'n.
*Insulin and weight in Infants. Buttenwieser.—p. 659.
A Type of Lymphogranulomatosis. B. Kuhlmann.—p. 661.
"Catarrhal" Jaundice. H. Hans.—p. 663.
*Crookedness or Disease. Niewerth.—p. 663.
Technic for Intravenous Injection. S. Askanazy.—p. 666.
"Treatment of Paralysis." J. Klaar.—p. 667.
*Difference in Pulse in Valve Pneumothorax. E. Pick.—p. 667.
*Gaucher's Disease. L. Pick.—p. 667. Conc'n.
Survey on Ophthalmology. Adam.—p. 673.
Graham's Visualization of the Gallbladder. Von Schmizer.—p. 674.
Colonization of Tuberculous War Invalids with Their Families. Von Möller.—p. 682. Begun p. 644.

Vegetative Neurotic Attacks in Children.—Reuss reports thirty-six cases of a neurotic syndrome in children, characterized by disturbance of the vegetative system, affecting especially the parasympathetic. Attacks of nausea, dizziness, salivation, pallor, headaches may recur even several times a week—especially in the morning when school is in session. Atropin and bromids seemed to help, unless the effect was merely from suggestion.

Insulin, the Water Metabolism and the Weight in Infants.—Buttenwieser observed increase in weight and improvement of the general condition in healthy and dystrophic children after injections of 5 units of insulin given twice daily. The action was especially pronounced in children with lability of water metabolism.

Crookedness or Disease?—Niewerth—and many other surgeons—made a wrong diagnosis on a man who claimed to have been kicked in the abdomen by a horse. Almost all signs of internal injury—especially a marked defense of the right side—were present. Only the pulse was calm. The man refused to submit to a laparotomy and prevailed on the physicians to send him from one hospital to another—never paying his bills. Later inquiries showed that he was an epileptic and morally insane, and enjoyed himself repeatedly by playing the trick. He evidently was able to control single muscles of his abdomen.

Difference in Pulse in Valve Pneumothorax.—Pick's patient had a hardly palpable pulse on the left radial artery during a valve pneumothorax of the right side. The pulse became as strong as that of the left radial artery when the pressure of the pneumothorax was lowered by puncture.

Gaucher's Disease.—Pick concludes his extensive paper on the clinical pathology and histology of Gaucher's disease. He examined its phenomena also in the infant. Localizations in the bones which may lead to spontaneous fractures were especially studied.

Münchener medizinische Wochenschrift, Munich

72: 671-712 (April 24) 1925

Salpingostomy. A. Mayer.—p. 671.
Acetylene Anesthesia in Obstetrics. Behrendt and Maier.—p. 672. Cont'd.
*Cancer, Ovary and Placenta. O. O. Fellner.—p. 676.
*Permeability of Meninges. F. K. Walter.—p. 677.
*Exogenous Factor in Tabes. L. Rosanes.—p. 680.
*Spleen and Eosinophilia. J. K. Mayr and C. Moncorps.—p. 683.
*African Sleeping Sickness. W. Fischer.—p. 684.
*Diuretic Action of Potassium Bitartrate. O. v. Dehn.—p. 687.
Postoperative Retention of Urine. Seeland.—p. 688.
Welfare Work for the Crippled. F. Lange.—p. 689. Cont'd.
Tuberculosis of Sheaths of Tendons of Hand. H. Dieterich.—p. 693.
*Weakened Knee-Jerk in Appendicitis. K. Ochsenius.—p. 694.
*Twentieth Anniversary of Syphilis Spirochete. Hoffmann.—p. 694.
T. Mann's "Der Zauberberg." Prüssinn.—p. 696.
*Early Diagnosis of Sarcoma. A. Krecke.—p. 697.
*Russian Social Medicine. S. Weissenberg.—p. 698.
History of Malaria. P. Hildebrand.—p. 699.

Cancer, Ovary and Placenta.—Fellner has isolated from the corpus luteum but also from the testis and placenta a lipoid which causes growth of the uterus, vagina and breast—the latter even in males. Injections of this "feminine sexual lipoid" inhibited the growth of transplanted cancer as long as they were continued. He does not regard his results as decisive because the mice became cachectic.

Permeability of Meninges in Systemic Affections of Spinal Cord.—Walter confirms the increased permeability in tabes. Contrary to this, the permeability of the meninges in hereditary ataxia and amyotrophic lateral sclerosis is normal or decreased. This points to a local process in the cord—not to the action of a toxin—in the latter diseases.

Exogenous Factor in Tabes.—Rosanes emphasizes the influence of external conditions and injuries for the development of tabes.

Spleen and Eosinophilia.—Mayr and Moncorps observed in splenectomized guinea-pigs a decrease and subsequent slow increase in the eosinophilic polymorphonuclears. The maximum of 1,000-2,500 cells per cubic centimeter was observed forty to fifty days after the operation. One third of the animals died about this time. These had no enlarged lymph glands, which are otherwise found after splenectomy. Injections of a protein-free extract from the spleen in patients with itching dermatoses decreased both the eosinophilia and the itching. They point to the possibility of a causal relation between the spleen and the disease.

African Sleeping Sickness.—Fischer describes the results he obtained with Kleine in Africa. Bayer 205 apparently cured the patients of the first and second stage. It had no curative influence in cattle affected with trypanosomiasis.

Diuretic Action of Potassium Bitartrate.—Dehn confirms the mild diuretic action of potassium bitartrate. It does not always increase the elimination of sodium chlorid.

Weakened Knee-Jerk an Objective Sign of Appendicitis in Children.—Ochsenius observed a weakened right knee-jerk in a child nearly 2 years old during the attack of appendicitis. Both reflexes were equal after recovery.

Twentieth Anniversary of the Discovery of the Spirochete of Syphilis.—Hoffmann describes the history of the discovery of *Spirochaeta pallida*, which was first seen by Schaudinn, March 3, 1904, and announced in collaboration with him.

Early Diagnosis of Sarcoma.—Krecke emphasizes the importance of suspecting every nodule. If it is in the muscle, it can be practically only a gumma or a sarcoma. One should not lose too much time with antisyphilitic treatment. Sarcomas of the bones near the joints are too often mistaken for tuberculosis.

Russian Social Medicine.—Weissenberg finds that every extension of the socialized medical service in Soviet Russia increased not only the number of patients treated but also their discontent. The patients come with the slightest trouble and the physicians are so overburdened in their poorly paid sweat shops that they cannot give adequate service. No free choice of physicians exists there.

Wiener klinische Wochenschrift, Vienna

38: 449-474 (April 23) 1925

*Action of Iodin and Asthma. Pollitzer and Stolz.—p. 449.
*Intravenous Infusion of Hypotonic Salt Solution. R. Latzel and K. Stejskal.—p. 453.
*Biology of Lipoids. E. Hermann and W. Schiller.—p. 454.
Chylothorax from Substernal Goiter. H. Schultze.—p. 455.
"Protein Treatment of Diabetes." F. Bertram.—p. 459.
Reply. G. Singer.—p. 459.
Roentgen Biology and Therapy. L. Freund.—p. 459.
Mutual Life Insurance of Physicians. W. Mager.—p. 461.
Infections of Mouth in Infants. M. Zarfl. Supplement.—pp. 1-16.

Determination of Action of Iodin.—Pollitzer and Stolz conclude from their observations that the specific dynamic action of ingested and injected proteins is individually constant. The maximum is reached in three hours after ingestion and in eight hours after injection. Injections of very small doses of iodides depress the specific dynamic action of the parenteral injection of casein. Larger doses increase it. Both figures may be very near each other (for instance, 1 and 2 mg.) and the borderline differs with the individual.

Intravenous Infusion of Hypotonic Salt Solution.—Latzel and Stejskal injected intravenously 200 c.c. of a 0.5 per cent. solution of sodium chlorid. It causes a flow of water from the blood into the tissues, inspissation of blood, and hypo-

glycemia. They observed transitory effects in diabetes insipidus and mellitus and in grave diarrhea.

Biology of Lipoids.—Hermann and Schiller made intracutaneous injections of lipoids extracted from various organs, especially the gonads. In a large percentage of cases a secondary reaction appeared within 16-30 days which was less strong in men than in women, in whom it appeared in the premenstrual period. This secondary reaction was never observed in men injected with ovarian lipoids nor in women injected with lipoids from the testes alone.

Zentralblatt für Chirurgie, Leipzig

52: 961-1008 (May 2) 1925

Roentgen Finding in Epiphysis of Femur. Loeffler.—p. 961.
*Corpus Callosum Puncture. P. Babitzky.—p. 963.
A Cause of Foot Deformities. K. Ludloff.—p. 966.
Suprapubic Bladder Drain. H. Boeminghaus.—p. 967.
Fibroplastic Appendicitis. H. Berger.—p. 969.
Ileus from Cyst of Appendix. E. Wegener.—p. 971.
Retroperitoneal Hematoma from Trauma. Schneider.—p. 975.
Detachment of Lower Epiphysis of Femur. G. Riedel.—p. 978.

Puncture of Corpus Callosum.—Babitzky finds the results disappointing in hydrocephalus in children. In other cases, however, as cerebral affections or inoperable brain tumors, they were satisfactory. Necropsy in a case of not localized brain tumor revealed sinus thrombosis, affording further proof of the danger of operating blindly. He makes the puncture under control of the eye. The fatal cases, he says, are due chiefly to loss of strength after escape of the cerebral fluid and its continued uncontrollable outflow. On necropsy there were found near the dural flap adhesions of the cerebral meninges which obstructed the whole surface of the subdural space.

52: 1009-1072 (May 9) 1925

*Congenital Dislocation of Patella. G. Dencks.—p. 1010.
*Bone Sutures Producing Electric Currents. E. Orsós.—p. 1014.
Salicyl Injection in Varicose Veins. N. Grzywa.—p. 1017.
*Routine Stretching of the Sphincter. A. Kortzeborn.—p. 1018.
Justification of Gastro-Enterostomy. V. C. Irk.—p. 1021.
Perforation of Gallbladder with Gallstones. W. Graef.—p. 1024.
Conservative Treatment for Renal Tuberculosis. W. Hofmann.—p. 1025.

Congenital Dislocation of Patella.—Dencks describes a case in a young man with good functioning after operative treatment but, even with the most favorable results, the joint is hardly fully competent. In congenital complete and irreducible dislocation of the patella, he advises operation only on urgent indications; if the anomaly causes little inconvenience, it is best left unmolested.

Bone Sutures Generating Electric Currents.—Because of this possibility, Orsós advises the use of one homogeneous metal for bone sutures in those cases in which splints and screws (the metals touching) are necessary. He says it might be better to employ an autoplastic bone plate for the splint. This could be fastened to the fractured ends of the bone by simple wires.

Routine Stretching of the Sphincter After Laparotomies.—Kortzeborn says that when exaggerated tonicity of the anus is undesirable, it is advantageous to abolish the sphincter tonus for a time. This he does by gently stretching the external sphincter immediately after the laparotomy. This does not entail incontinence for longer than is necessary.

Zentralblatt für Gynäkologie, Leipzig

49: 849-896 (April 18) 1925

*Primary Mortality of Radium Treatment of Uterine Cancer. G. Döderlein.—p. 852.
*Puerperal Morbidity After Intra-Uterine Intervention. K. H. Kiefer.—p. 860.
Objections to "Hormonal Sterilization." A. Greil.—p. 862.
*Restriction of Manual Examination During Labor. Dipper.—p. 863.
Circular Rupture of Cervix During Delivery. E. Koch.—p. 866.
*Spontaneous Retraction of Gravid Uterus Under Examination. O. O. Fellner.—p. 869.
Kielland Forceps in High Breech Presentation. J. Kelen.—p. 871.
Decapitation in Transverse Presentation. I. Freid.—p. 874.

Primary Mortality from Radium Treatment of Uterine Cancer.—Döderlein's study of 2,200 patients treated for cancer of the genitals reveals a primary mortality of about 0.3 per cent. In two instances curettage or exploratory excision had immediately preceded introduction of the radium; in such cases it is difficult to determine which intervention is responsible for the outcome. In three instances the curettage was made months before the radium treatment and could not be considered as the cause of the sepsis. Under certain unfavorable conditions even the insertion of a tube of radium may lead to fatal infection. Injuries from the insertion of the radium, in connection with curettage, etc., ought perhaps to be more carefully guarded against, but the danger is not great. The few fatal cases do not justify the discontinuance of a precaution so well founded as the removal of necrotic tissue. Exploratory excisions are necessary to establish the diagnosis and to determine the histologic structure of the cancer.

Puerperal Morbidity from Intra-Uterine Interventions in Third Stage of Labor.—As such intervention Kiefer designates separation of adherent or nonadherent placenta and palpation of the uterine cavity, whether for removal of placenta remnants or to establish possible injury, that is, any introduction of the hand into the uterus. His conclusions bear only on hospital cases. He finds no greater puerperal mortality and morbidity after intra-uterine intervention in the third stage of labor than after other obstetric operations.

Restriction of Manual Examination During Labor.—Dipper urges the more common use of the speculum instead of digital examination. In one of his cases examination through the speculum established at once a disputed breech presentation; the premature rupture of the membranes had made the findings clear. In another instance one glance through the speculum explained the situation. He advocates speculum examination during labor to supplement and explain the findings in examination through the rectum. This may render vaginal examination superfluous, or at least should precede it. He refers to the great increase in puerperal fever in China since the introduction of scientific obstetrics there. Twenty years ago without scientific obstetrics the mothers in China were safer than today, with vaginal examinations. He attributes the previous absence of puerperal complications largely to the avoidance, in the native obstetric methods, of manual examination of the os during labor.

Retraction of Gravid Uterus in Beginning Pregnancy.—Fellner reports certain cases of early pregnancy in which his examination revealed a seemingly abnormally small uterus. In the first in this group the mistaken diagnosis was made of a uterus smaller than normal, with hypoplasia and no pregnancy. He found, however, that on repeated examination, ten minutes later, the uterus appeared much larger, then smaller again. The signs indicated early pregnancy, and the examination had probably induced a strong and continued contraction of the uterus due to its marked excitability. He warns not to be misled by these changes in size of the newly gravid uterus.

49: 961-1008 (May 2) 1925

*Interfereometer in Obstetrics and Gynecology. A. Streck.—p. 968.
Tetanus from Criminal Abortion. H. Flechtner and G. Quast.—p. 975.
Normal Labor. G. Frommelt.—p. 979.
"Interruption of Pregnancy and Criminal Law." A. Niedermeyer.—p. 992.
Objections to Incretion Theory. A. Greil.—p. 995.
Mechanics of Stem Torsion of Tube. H. Grossmann.—p. 1001.
Extravasation of Blood from Tube in Menstruation. M. Behrend.—p. 1007.

Interfereometer in Diagnosis in Obstetrics and Gynecology.—Streck refers to the value of this method in veterinary science for the early diagnosis of gravidity. Gravidity in cows cannot be established by internal examination before the third or fourth month; out of 297,160 slaughtered cows, 10 per cent. were gravid. In horses the diagnosis has usually been impossible before the sixth month. Tests, however, show successful application of the interfereometer method in horses, in spite of their so-called semiplacenta. The serum of pregnant women induces the same cleavage of horse placenta as of human placenta. He used each time as test preparations normal human placenta and also a substrate of tubal tissue and tubal placenta. In tubal pregnancy, unlike normal pregnancy, the cleavage of the second substrate was higher. In two cases of missed abortion (death of the fetus two or three months earlier) no cleavage resulted. The determination of sex offers difficulties because every preg-

nancy serum digests the testicle substrate, as does also the serum from virgins and immature female monkeys; vice versa, the serum from males digests the ovarian substrate. Serum from myoma patients induces positive cleavage of the myoma substrate, pronounced cleavage of the normal uterus substrate, and no cleavage of the substrate from cancer of the body and cervix of the uterus. In cancer of the uterus body and cervix, the serum digests the cancer substrate and, to a marked degree, the normal uterus substrate.

Zentralblatt für innere Medizin, Leipzig

46: 353-368 (April 18) 1925

*Blood Phenols in Insufficiency of Kidneys. E. Becher and W. Täglich. —p. 353.

Blood Phenols in Insufficiency of Kidneys.—Becher and Täglich determined quantitatively these substances in the blood in grave insufficiency of the kidneys. About three fourths of the phenols consist of paracresol, the rest is phenol. Practically none are in a free state. Aromatic oxy-acids are mostly free and occur in insufficiency of the kidneys in larger amounts than the phenols.

46: 369-416 (April 25) 1925

*Pathogenesis of Uremia. E. Becher.—p. 369.
Urea Treatment of Nephrosis. K. Kötschau.—p. 408.
The Residual Nitrogen and Uremia. Klein.—p. 411. Comment. Becher. —p. 413.

Pathogenesis of Uremia.—Becher discusses the pathogenesis of genuine uremia (with increased residual nitrogen). The cleavage of proteins is unquestionably increased. He believes that urea has a toxic action due to its decomposition into ammonia in the alimentary tract. The latter changes partly into ammonium carbamate, which is resorbed together with the carbonate into the blood. Above all, he emphasizes the increase in aromatic phenols and oxy-acids which he found in the blood and tissues. They are not present in the cerebrospinal fluid until just before death. They are not augmented in the blood in acute nephritis. Chronic phenol poisoning resembles uremia. The uremic acidosis is probably due to a retention of aromatic oxy-acids and especially of phosphoric acid. Amins also probably play some rôle in uremia.

Časopis lékařů českých, Prague

64: 601-640 (April 18) 1925

*Traumatic Origin of the Argyll Robertson Pupil. L. Taussig.—p. 601.
*Surgery of Adnexitis. J. Gruss.—p. 605.
*Action of Radium Emanation on Blood Pressure. F. V. Novák and O. Stancl.—p. 608.
Arterial Pressure in Lumbar Anesthesia. P. Trnka.—p. 612.
*Characterization of Roentgen Spectrum. V. Mandler.—p. 618.
American Calorimetric Methods. I. Mačela.—p. 620.
Treatment of Pernicious Anemia. V. Jedlička.—p. 622.

Traumatic Origin of Argyll Robertson's Pupil.—Taussig observed a unilateral Argyll Robertson phenomenon in a young woman who had suffered, five years before, a concussion of the brain by falling from a street car on her occiput. There was no indication whatsoever of syphilis. The cerebrospinal fluid was normal. The affected pupil was narrower than the other.

Surgery of Adnexitis.—Gruss limits surgery in adnexitis to vital indications and frequent recurrences. The statistics on complete recovery are subjective. Eighty per cent. is too optimistic an estimation.

Action of Radium Emanation on Blood Pressure.—Novák and Štancl kept guinea-pigs for two hours daily in an atmosphere containing radium emanation. There was an enormous leukopenia and the animals died after five or six days of daily inhalation of ten millicuries. The typical necropsy finding was bronchopneumonia, which they attribute to the lowered resistance of the animals.

Characterization of Roentgen Spectrum.—Mandler characterizes the roentgen spectrum entirely in terms of acoustics, such as fifths, sixths, etc., not only the fourteen octaves.

64: 641-680 (April 25) 1925

Hemorrhages in Ear. K. Výmola.—p. 641. Cont'd.
Legg-Perthes Disease. R. Ripa and V. Musil.—p. 644. Cont'd.
*Stereoscopy of the Eye. A. Gala.—p. 649.
*Cortical Disturbances in Otogenous Meningitis. A. Přecechtěl.—p. 653.
*Arterial Pressure in Intraspinal Anesthesia. P. Trnka.—p. 655. Conc'n.
Intracardiac Administration of Drugs. V. Pyro.—p. 662.

Stereoscopic Photography of the Eye.—Gala describes his apparatus for obtaining fourfold enlarged stereoscopic pictures of the eye.

Cortical Disturbances in Otogenous Meningitis.—Přecechtěl reports a case of otogenous meningitis with symptoms pointing to a process localized in the cortex. This syndrome indicates in chronic otitis an abscess in the brain, while meningitis is more probable in acute cases.

Arterial Pressure in Intraspinal Anesthesia.—Trnka found that a preliminary subcutaneous injection of a large dose of caffein (0.5 gm.) prevents in otherwise healthy subjects the drop in the arterial pressure which is otherwise constant. He believes that a fatal outcome of lumbar anesthesia occurs more frequently than is reported.

Acta Pathologica et Microbiologica Scandinavica, Copenhagen

1: 201-352, 1924

*Length of Life of Transfused Erythrocytes. F. Jervell.—p. 201. Conc'n.
Form of Human Stomach Revealed by Trichobezoars. E. Sjøvall.—p. 245.
Simple Dark Field Illumination. W. A. Hoyer.—p. 259.
Ulcerative Gonorrheal Aortitis. A. Lindau.—p. 263.
Ependyma Cyst in Third Ventricle. F. Wahlgren.—p. 276.

Life of Transfused Erythrocytes Determined by Differential Agglutination.—Ashby's method differentiates the transfused erythrocytes by a quantitative determination of the nonagglutinable erythrocytes in the blood of the receiver. The average number per cubic centimeter corresponds to about 1 per cent. of the erythrocyte number. Immediately after transfusion part of the transferred erythrocytes are destroyed, frequently with concomitant fever, chills, indisposition, and urobilinuria. About the third week another decrease of the remaining erythrocytes occurs, with simultaneous increased regeneration of the blood. Jervell says that to verify the transfused erythrocytes directly by agglutination in adults would require the transfusion of incompatible blood. He gives a direct differential agglutination method applicable in the new-born, in whom iso-agglutinins are seldom found. In a case of melena neonatorum treated by blood transfusion, this procedure indicated that the transfused erythrocytes lived over six weeks.

Hospitalstidende, Copenhagen

68: 217-240 (March 12) 1925

*Thiosulphate Kidney Function Test. V. Eskelund.—p. 217.
General Light Baths. A. Reyn et al.—p. 229. Conc'n, p. 300.

Kidney Function Test with Thiosulphate.—Eskelund used Nyiri's test in ten persons with healthy kidneys and in twenty-one with nephritis, essential arterial hypertension, or nephropathy (not nephritis), with such good results that he advocates more inclusive investigations on its applicability. [It was described in these columns, April 28, 1923, p. 1276.]

68: 241-264 (March 19) 1925

Treatment of Anthrax. C. M. Rovsing.—p. 241.
Rete Cords of Medulla of Ovary. T. Kemp.—p. 247.

68: 265-288 (March 26) 1925

*Herpes Zoster and Tuberculosis. S. Magnússon.—p. 265.

68: 289-312 (April 2) 1925

Woman Found Dead in Delivery. J. Fog.—p. 289.
Snapping Finger and Its Treatment. A. Monberg.—p. 295.
Serum Calcium in Quincke's Edema. P. Schultzer.—p. 308.

68: 313-336 (April 9) 1925

Urease-Thiosulphate Microtest for Urea. E. W. Gøthgen.—p. 313.
Sedimentation Speed of Erythrocytes. E. Rud.—p. 331. Conc'n, p. 348.

68: 361-384 (April 23) 1925

Histologic Study of Hemorrhoids. J. Jessen.—p. 361. Begun, p. 337.
Perforated Gastric and Duodenal Ulcer. H. Abrahamsen.—p. 367. Cont'd.

Herpes Zoster and Tuberculosis.—In the first two of Magnússon's ten cases of zoster, the only ones in about 1,200 cases of tuberculosis, the eruption and facial paralysis occurred immediately after tuberculin treatment and evidently resulted from it. In the others, the eruption appeared in the skin areas directly over the affected lung or pleura or intestines.